

Relationship Between Select Labour Market Variables and Economic Growth: An Investigation for Some South and Southeast Asian Nations

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Abstract

The role of labour in economic theory and national development has long been regarded as foundational. Traditionally identified as one of the primary factors of production, labour is often studied in conjunction with capital, land, and entrepreneurship. However, its role transcends that of a passive input. Labour interacts with, complements, and enhances the productivity of all other inputs, thereby playing a dynamic and irreplaceable role in the process of economic growth. This study investigates the impact of some labour market variables—specifically, the annual percentage growth rate of output per worker, mean weekly hours worked at the national level, and informal sector employment—on real GDP growth across eight South Asian and Southeast Asian countries: Bangladesh, Brunei, India, Indonesia, Laos PDR, Pakistan, Sri Lanka, and Timor-Leste. Relying on quantitative secondary data, the research employs statistical tools including ANOVA, t-tests, collinearity diagnostics, and correlation and covariance analysis to examine these relationships. Regression analysis reveals a high correlation coefficient ($R = 0.947$) and a substantial coefficient of determination ($R^2 = 0.897$), suggesting a strong explanatory power of the model. Results indicate that mean weekly hours worked have a marginally significant influence on real GDP growth; however, the relationships involving informal sector employment and labour productivity did not yield statistically significant results within the current model specifications—likely due to data limitations rather than absence of actual effects. Despite these constraints, existing literature supports the presence of meaningful connections among the studied variables. The findings underscore the necessity of integrating labour metrics into economic policy frameworks and highlight the critical role of informal employment in understanding regional growth patterns. This research contributes to the broader discourse on inclusive economic development and offers actionable insights for policymakers aiming to enhance labour market efficiency and sustainable growth in some emerging economies.

Keywords: Labour Market, South Asian Nations, GDP.

1. Introduction

South and Southeast Asian countries exhibit diverse economic structures, varying degrees of informality, and unique labour market characteristics. Analysing these variables in this regional context allows for insights into regional differences and similarities in economic growth dynamics. These regions are characterized by a significant informal sector presence, rapid economic growth, evolving labour market conditions, and substantial economic transformations in recent years, positioning them as key players in the global economic arena, making it particularly relevant for studying the relationship between informal employment, labour productivity, and GDP growth.

(Rahman, 2018) South Asian countries are projected to witness significant increases in labour force participation rates over the next two decades, contributing substantially to global GDP growth. Despite this, the region's share of the global economy remains relatively small compared to its potential workforce, a direct impact of rising labour force participation on countries' GDP has been found and underscore the importance of addressing social barriers and investing in education and skills development to unlock the full economic potential of the region.

A notable portion of the workforce of these regions operates within the informal sector, operating beyond formal regulations and often lacking essential social

protections. Recognizing the significance of informal sector employment is crucial, given its substantial contribution to overall employment figures and its role in bolstering the productivity of these economies. Informal employment refers to the multitude of job opportunities stemming from the informal economic sector, which includes roles like street vendors selling goods such as vegetables, hawkers, marketers, artisans, small-scale businesses operating from verandas, and cross-border traders. Currently, a significant portion of the global workforce relies on the informal economy, accounting for over 60% of total employment. This sector operates outside formal regulations, making it easy for individuals to engage in without government taxation or oversight. (Calbreath, 2010). The informal economy represents over half of the global workforce. It's a significant feature of labor markets globally, with millions of economic entities and hundreds of millions of workers operating in informal conditions. The informal economy absorbs 8 out of every 10 enterprises in the world. More than 60 percent of the world's employed population, that is 2 billion people, earn their livelihoods in the informal economy. (UNDP, 2022). But the Informal sector, informal economy, and informal employment were viewed as less developed and less important compared to their formal counterparts. The Lewis dual economic model suggests that in developing economies, a new capitalist sector can emerge, absorbing surplus labor from subsistence farming and eventually surpassing it, leading to overall economic growth. This model posits that the informal sector persists due to the formal sector's inability to fully absorb labour during industrialization. Today, we understand that the informal sector, informal economy, and informal employment are not temporary phenomena but rather crucial sources of bringing change in employment and income. They are closely linked to the formal sector and have a substantial impact on GDP.

The informal economy is a global phenomenon, but there is great variation within and across countries. On average, it represents 35 percent of GDP in low- and middle- income countries versus 15 percent in advanced economies. (IMF, 2021). Additionally, this sector's flexibility and accessibility often make it the primary source of livelihood for marginalized or disadvantaged groups, including those without access to formal education or vocational training programs,

and the informal sector provides an entry point for individuals seeking to enter the workforce or transition from unemployment, offering a platform for gaining practical experience and acquiring skills through on-the-job training and apprenticeships. Its role in providing employment opportunities to a diverse range of individuals underscores its importance in addressing unemployment challenges and affecting economic growth.

In 2003, the 17th International Conference of Labour Statisticians at the ILO (17th ICLS) introduced guidelines that looked at informality through the lens of jobs. They defined informal employment as any paid work (whether self-employment or wage employment) that isn't registered, regulated, or protected by existing legal frameworks. This also includes unpaid work done in income-generating activities. Workers in informal employment lack secure contracts, job benefits, social protection, or representation. (ILO, 2003). (Islam, 2019) presented a noteworthy positive correlation between the informal economy and GDP growth rate in developing countries of South Asia, and made it imperative for policymakers and development practitioners in this region to prioritize support for informal sector entrepreneurs to facilitate sustained economic expansion and development. But (Gökçer Özgür, 2020) pointed out that the size of the informal sector is negatively associated with GDP per capita. The effect of larger informal sector size is stronger in less developed economies. (Ceyhun Elgin, 2016) presented an empirical study examining 161 countries from 1950 to 2010 explores how the size of the informal economy affects long-run economic growth and revealed an inverted-U shaped relationship, where countries with moderate levels of informality experience higher GDP per capita growth, while those with very small or very large informal sectors tend to grow more slowly and also finds that the impact of informality differs by income level: in high-income economies, a larger informal sector is linked to higher growth, whereas in low-income economies, it tends to slow growth. Additionally, when breaking down the sources of growth using a growth accounting method, the study showed that informality is mainly connected to changes in total factor productivity (TFP), and this link also varies between high- and low-income countries.

Informality stems from various factors, including economic circumstances, legal and regulatory frameworks, and individual factors like education level, discrimination, and poverty. Limited access to resources such as property, financial services, and markets also contribute. The prevalence of informal work poses significant challenges to worker rights, decent working conditions, working in the informal economy involves small or unclear workspaces, unsafe and unhealthy conditions, limited skills and productivity, inconsistent incomes, long hours, and limited access to vital resources like information, markets, finance, training, and technology, workers in this sector often lack recognition, registration, regulation, or protection under labor laws and social safety nets and it eventually adversely affects enterprises, public revenues, government capabilities, institutional integrity, and fair competition.

The study also explores the nature of Labour productivity, measured through the annual percentage growth rate of output per worker, which serves as a core indicator of economic efficiency and progress. It measures the inflation-adjusted increase in output generated per worker over time, reflecting advancements in technology, skill levels, and capital intensity. Derived by comparing changes in real output to changes in employment, this metric highlights how effectively economies convert labour input into value. The significance of the growth rate of output per worker lies in its direct impact on economic development and national income. Higher productivity not only indicates better use of resources but also supports sustained GDP growth—making it a critical determinant of long-term economic development in South and Southeast Asian countries. More output per worker implies that workers are becoming more efficient in their production processes, leading to increased economic output without the need for a proportional increase in labour inputs. (Fedulova, 2019) explores the critical nexus between labour productivity and sustainable economic development, positioning enhanced productivity as a cornerstone of long-term economic growth and emphasized that increasing labour productivity is not merely an economic imperative but also a strategic approach to achieving sustainable labour development. By examining current labour productivity indicators

across regional and industrial dimensions, the research sheds light on systemic challenges impeding progress.

The growth of the labour force contributes positively to economic growth, high-quality skilled labour is crucial for maintaining productivity. Unemployment is attributed to a skills mismatch rather than an oversupply of unskilled labour, especially in industry-led growth scenario and recommends prioritizing skills development efforts, including apprenticeships and reskilling initiatives, to improve labour productivity and sustain growth. (Banda, 2015). In the context of South Asia and Southeast Asia countries, the growth rate of output per worker holds particular importance due to several factors. These regions are experiencing rapid demographic changes, with large and growing working-age populations. Harnessing the productive potential of this demographic dividend requires increasing productivity levels to absorb the expanding labour force and create employment opportunities. Moreover, many countries in these regions are undergoing structural transformations, transitioning from agrarian to industrial and service-based economies. Increasing output per worker is essential for facilitating this transition and ensuring sustained economic growth.

Mean weekly hours worked is a vital indicator of labour utilization, particularly in regions marked by underemployment, informal sector dominance, and limited worker protections. In South and Southeast Asia, where informal employment is widespread and often entails long, unregulated hours, managing average work hours is essential for promoting inclusive growth, labour market efficiency, and poverty reduction. Balancing increased labour input with decent working conditions and rest is critical to sustainable development and improved worker well-being. At the national level, mean weekly hours worked directly influence productivity, economic output, and GDP. This metric captures the intensity of labour input across sectors, offering policymakers insights into its implications for economic performance. While longer hours may initially boost output, they often lead to diminishing returns, worker fatigue, and reduced efficiency, highlighting the importance of optimizing rather than maximizing work time. A negative relationship has been observed between long work hours and individual health—

particularly among men—as well as with organizational performance and overall economic development, at the societal level, extended working hours appear to hinder rather than support long-term progress, highlighting the potential advantages of reducing work hours to enhance worker well-being, improve institutional efficiency, and support sustainable economic growth. (Liu, 2019). While a substantial body of literature has examined various aspects of labour market dynamics—such as productivity, informality, and working hours—most studies have analysed these variables in isolation or within narrowly defined national or sectoral contexts. Existing research often fails to integrate multiple labour dimensions into a single quantitative framework that directly assesses their collective impact on economic growth. This fragmentation leaves a gap in understanding how labour utilization, productivity, and informal employment interact to shape macroeconomic outcomes, particularly in the diverse and rapidly evolving economies of South and Southeast Asia. This study aims to address the gap by simultaneously analysing three critical labour variables—output per worker, informal sector employment, and mean weekly hours worked—within a unified econometric model to estimate their influence on real GDP growth. Such an integrative, cross-country quantitative approach is largely absent in the existing literature. By applying robust statistical methods and conducting empirical tests for model fitness and multicollinearity, this research provides a more comprehensive and nuanced understanding of labour's role in economic development. In doing so, it not only contributes original findings but also offers a policy-relevant framework for interpreting labour dynamics in regions where informal work and long working hours are prevalent yet under-researched in macroeconomic analysis.

The present study undertakes a quantitative investigation into the relationship between key labour market variables and real GDP growth in selected South and Southeast Asian countries. Specifically, the study seeks to estimate the contribution of employment generated by the informal sector to economic performance, recognizing the dominant role of informality in the region's labour markets. It further examines the impact of the annual percentage growth rate of output per worker on the real GDP growth rate,

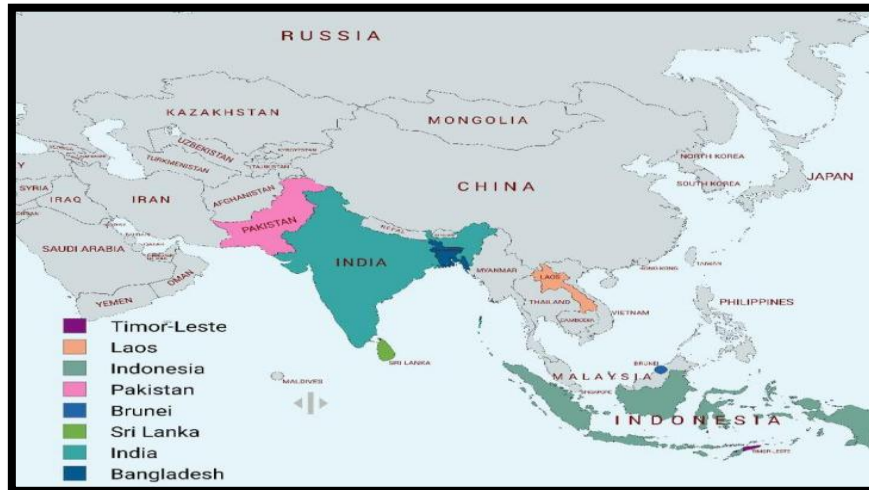
providing insight into the productivity-growth nexus. Another core objective is to evaluate the effect of mean weekly hours actually worked at the national level on real GDP growth, shedding light on labour input intensity and its developmental implications. In addition to estimating these relationships, the study aims to assess the statistical significance of the estimated coefficients and test the overall fitness of the econometric model used. Finally, it includes diagnostic testing for multicollinearity among explanatory variables to ensure the robustness and reliability of the regression results. Through this data-driven approach, the study provides a comprehensive empirical foundation to better understand labour's role in shaping economic outcomes in the region. Furthermore, assessing labour utilization through this metric enhances understanding of how labour dynamics shape economic growth in developing regions and aims to provide valuable guidance for policymakers and international institutions seeking to design evidence-based strategies that formalize employment, foster a healthy work-life balance, and invest in skills development to ensure long-term economic prosperity.

2. Research Methodology

2.1 Nature of Research

The nature of the data used in this study is quantitative and secondary data obtained for eight sampled South Asian and Southeast Asian countries, which comprises of numerical information collected from existing sources, such as IMF, World Bank, and ILO. The data analysis involves quantitative methods to explore relationships and patterns within the dataset. Using quantitative methods like regression analysis, the study explores correlations and functional relationships among select factors. The study relies on pre-existing data sets to investigate the correlation between informal sector employment, the annual percentage growth rate of output per worker, and the mean weekly hours worked at the national level impact with the real GDP growth rate across different sampled countries. The output data has been obtained by employing regression analysis utilising SPSS Statistics software, applied to the variables under consideration.

2.2. Study Area: Sampled countries



2.3. Nature of variables, description and sources

Variable Name and Type	Variable Description	Source/Time Period
Annual Real GDP Growth Rate (%) Endogenous	Real Economic Growth Rate is the inflation adjusted rate at which a nation's Gross Domestic product (GDP) changes/grows from one year to another.	IMF 2021
Employment creation by Informal Sector (%) Exogenous	Includes all individuals of working age who, during a specified period, were engaged in paid employment or self-employment—either actively working or having a job but temporarily not at work. Informal employment refers to individuals whose main or secondary jobs fall outside formal arrangements, and includes: (a) own-account workers, employers, and cooperative members operating informal sector enterprises; (b) own-account workers producing goods for household consumption (e.g., subsistence farming); (c) contributing family workers; and (d) employees in informal jobs, regardless of whether they work in formal or informal enterprises, or as paid domestic workers in households. (<i>Statistics on the Informal Economy</i> , n.d.)	ILO 2021
Annual percentage Growth rate of output per worker (GDP constant 2017 international \$ at PPP) (%) Exogenous	Labour productivity represents the total volume of output (measured in terms of Gross Domestic Product, GDP) produced per unit of labour (measured in terms of the number of employed persons) during a given time reference period. (<i>Statistics on Labour Productivity - ILOSTAT</i> , n.d.)	ILO 2021
Mean weekly hours actually worked at national level (%) Exogenous	Mean weekly hours worked at the national level refers to the average number of hours worked per employed individual in their primary occupation over the course of a week. (<i>ILO Modelled Estimates (ILOEST Database)</i> , n.d.)	ILO 2021 Modelled Estimate

2.4. Statistical and Econometrics tools

To analyse the relationship between labour market variables and real GDP growth, a set of statistical and econometric techniques were applied systematically.

Pearson correlation analysis was conducted to assess the linear relationships between the independent variables—labour productivity, informal sector employment, and mean weekly hours worked—and the dependent variable, real GDP growth rate. The significance levels were checked to confirm the statistical relevance of these associations. An ANOVA (Analysis of Variance) test was employed to examine the overall significance of the regression model, ensuring that the combined influence of the

independent variables meaningfully explained variations in the dependent variable. The correlation coefficients and regression coefficients were then estimated to measure the strength, direction, and impact of each explanatory variable on economic growth. These coefficients provided insight into how strongly and in what manner each labour dynamic variable influences GDP growth. Finally, a collinearity diagnostic test was performed using the Variance Inflation Factor (VIF) to detect the presence of multicollinearity among the independent variables. This was crucial to ensure the accuracy and reliability of the coefficient estimates and the overall model specification.

3. Results

Table 3.1. Informal sector employment, labour productivity, mean weekly working hours, and GDP growth rate in South-Asian and Southeast-Asian countries

S no.	Name of the South-Asian and Southeast-Asian Countries	Real GDP Growth Rate (%)	Annual percentage Growth rate of output per worker	Employment creation by Informal Sector (%)	Mean weekly hours actually worked at national level
1	Bangladesh	6.9	3.5	94.7	51.5
2	Brunei	-1.6	-5.5	34	47
3	India	9.1	4.4	89.1	56.2
4	Indonesia	3.7	4.6	80.2*	40
5	Lao PDR	2.1	0.7	90.5	43.8
6	Pakistan	5.8	1.5	84.3	49.2
7	Sri Lanka	3.5	1.4	66.64**	51.47***
8	Timor-Leste	2.9	0.3	80.6	36.5

Source: Prepared by the researchers, data extracted from ILO and World Economic Outlook for the year 2021

* Interpolated for Indonesia for 2021 using the Forecast function

** Extrapolated for Sri Lanka for 2021 using extrapolative forecasting

*** Extrapolated for Sri Lanka for 2021 using extrapolative forecasting

MODEL I:

$$Y = \alpha + \beta_0 X_1 + \beta_1 X_2 + \beta_2 X_3 + \varepsilon$$

here,

Y = Real GDP Growth Rate

α = Constant

β_0 = Coefficient of Annual percentage Growth rate of output per worker

β_1 = Coefficient of Employment creation by Informal Sector

β_2 = Coefficient of Mean weekly hours actually worked at national level

X_1 = Annual percentage Growth rate of output per worker

X_2 = Employment creation by Informal Sector

X_3 = Mean weekly hours actually worked at national level

ε = Error Term

Table 3.2: Correlations

		Real GDP Growth Rate (%)	Employment creation by Informal Sector (%)	Annual percentage Growth rate of output per worker	Mean weekly hours actually worked at national level
Pearson Correlation	Real GDP Growth Rate (%)	1.000	.767	.840	.547
	Employment creation by Informal Sector (%)	.767	1.000	.833	.064
	Annual percentage Growth rate of output per worker	.840	.833	1.000	.194
	Mean weekly hours actually worked at national level	.547	.064	.194	1.000
Sig. (1-tailed)	Real GDP Growth Rate (%)	.	.013	.005	.080
	Employment creation by Informal Sector (%)	.013	.	.005	.440
	Annual percentage Growth rate of output per worker	.005	.005	.	.323
	Mean weekly hours actually worked at national level	.080	.440	.323	.

Extraction method: Regression Analysis

Table 3.2 Pearson correlation analysis revealed a strong and statistically significant positive relationship between Real GDP Growth Rate and both employment creation by the informal sector ($r = 0.767$, $p = 0.013$) and labour productivity growth ($r = 0.840$, $p = 0.005$), suggesting that these two factors play a critical role in driving GDP growth. A similarly strong and significant correlation was observed between informal sector employment and labour productivity growth ($r = 0.833$, $p = 0.005$), indicating potential complementarities. In contrast, mean weekly hours worked showed no

significant correlation with any variable—Real GDP Growth ($r = 0.547$, $p = 0.080$), informal sector employment ($r = 0.064$, $p = 0.440$), or labour productivity growth ($r = 0.194$, $p = 0.323$)—implying that longer working hours do not necessarily contribute to higher productivity or growth. These findings underscore the importance of improving labour productivity and strengthening the informal sector, rather than merely increasing working hours, for sustainable economic development.

Table 3.3: Model Summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.947 ^a	.897	.819	1.3837	.897	11.578	3	4	.019
a. Predictors: (Constant), Mean weekly hours actually worked at national level, Employment creation by Informal Sector (%), Annual percentage Growth rate of output per worker (Labour Productivity)									
b. Dependent Variable: Real GDP Growth Rate (%)									

Extraction method: Regression Analysis

Table 3.4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	66.502	3	22.167	11.578	.019 ^b
Residual	7.658	4	1.915		
Total	74.160	7			
a. Dependent Variable: Real GDP Growth Rate (%)					
b. Predictors: (Constant), Mean weekly hours actually worked at national level, Employment creation by Informal Sector (%), Annual percentage Growth rate of output per worker (Labour Productivity)					

Extraction method: Regression Analysis

Table 3.3 shows overall model summary which outlines the performance and fit of a regression model. The regression analysis yielded a high correlation coefficient ($R = 0.947$), indicating a strong positive relationship between the dependent and independent variables. The R Square value of 0.897 suggests that approximately 89.7% of the variance in the dependent variable is explained by the model, with the remaining 10.3% attributed to factors not included in the analysis. The Adjusted R Square, which accounts for the number of predictors, stands at 0.819, reflecting a good model fit. The standard error of the estimate is 1.3837, indicating that predicted values deviate from actual values by an average of 1.38 units. The R Square Change (0.897) and F Change value (11.578, $p = 0.019$) confirm that the addition of predictors significantly improves the model's explanatory power at the 5% significance level. Overall, the model demonstrates strong explanatory strength and statistical significance, suggesting that the selected

predictors meaningfully contribute to variations in the dependent variable.

Table 3.4 presents the ANOVA results, indicating the overall significance of the regression model. The regression sum of squares ($SS = 66.502$) reflects the explained variation in the dependent variable, while the residual sum of squares ($SS = 7.658$) captures the unexplained variation. The mean squares for regression and residuals are 22.167 and 1.915, respectively, based on degrees of freedom ($df = 3$ for regression, 4 for residuals). The resulting F-statistic is 11.578, with a significance value ($p = 0.019$), indicating that the model is statistically significant at the 5% level. This implies that the independent variables, collectively, have a meaningful impact on the dependent variable. In the context of this research, the ANOVA results validate the strength and reliability of the regression model in explaining the observed variation, affirming that at least one explanatory variable significantly contributes to the outcome.

Table 3.5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-11.351	5.653		-2.008	.115
	Employment creation by Informal Sector (%)	.059	.049	.357	1.208	.294
	Annual percentage Growth rate of output per worker (labour productivity)	.463	.303	.459	1.528	.201
	Mean weekly hours actually worked at national level	.217	.083	.435	2.612	.059
a. Dependent Variable: Real GDP Growth Rate (%)						
Model		95.0% Confidence Interval for B		Correlations		Collinearity Statistics
		Lower Bound	Upper Bound	Zero-order	Partial	Part
(Constant)		-27.046	4.344			

Employment creation by Informal Sector (%)	-.077	.196	.767	.517	.194	.296	3.377
Annual percentage Growth rate of output per worker (labour productivity)	-.378	1.303	.840	.607	.245	.286	3.494
Mean weekly hours actually worked at national level	-.014	.447	.547	.794	.420	.931	1.074

Extraction method: Regression Analysis

Table 3.5 presents the regression coefficients for the model examining the influence of key labour market indicators on real GDP growth in South and Southeast Asian countries. The unstandardized coefficients indicate that employment creation by the informal sector ($B = 0.059$, $p = 0.294$) and annual growth in output per worker ($B = 0.463$, $p = 0.201$) have a positive but statistically insignificant effect on GDP growth at the 5% level. Mean weekly hours actually worked ($B = 0.217$, $p = 0.059$) shows a modest positive impact and is marginally significant, suggesting potential influence on GDP growth when other variables are controlled for. The constant term ($B = -11.351$, $p = 0.115$) is also statistically insignificant, indicating uncertainty in the predicted baseline GDP growth.

Although these coefficients do not reach conventional significance thresholds, they provide critical insight into labour market dynamics in the region. The confidence intervals reinforce these interpretations, as both informal sector employment (-0.077 to 0.196) and labour productivity (-0.378 to 1.303) intervals cross zero, indicating statistical insignificance. However, the narrower confidence interval for mean weekly hours worked (-0.014 to 0.447) suggests more stability and supports its marginal effect.

Correlation analysis reveals that all three predictors are positively associated with real GDP growth in zero-order correlations—0.767 for informal sector employment, 0.840 for labour productivity, and 0.547 for mean weekly hours worked. When controlling for other variables, partial correlations decrease for the first two but strengthen for mean weekly hours (partial correlation = 0.794), highlighting its potential individual contribution to GDP growth.

Multicollinearity diagnostics show moderate collinearity between informal sector employment (Tolerance = 0.296, VIF = 3.377) and labour

productivity (Tolerance = 0.286, VIF = 3.494), which could suppress their individual effects in the regression model. Mean weekly hours worked, however, displays low collinearity (Tolerance = 0.931, VIF = 1.074), affirming its robustness as an independent predictor.

Despite the lack of strong statistical significance, it reflects the complexity of economic relationships. Moreover, the observed trends—particularly the marginal influence of mean weekly hours worked and the multicollinearity among other predictors—offer important directions for future research. These insights highlight the need for larger datasets and more nuanced models to better understand the interconnected roles of labour productivity, informal employment, and labour participation in driving economic growth in developing regions.

The estimated model can be represented as:

$$\hat{Y} = -11.351 + 0.059X_1 + 0.463X_2 + 0.217X_3 + \epsilon$$

5.653	0.049	0.303	0.083
-2.008	1.208	1.528	2.612

here:

$$\hat{\alpha} = -11.351 \quad SE(\hat{\alpha}) = 5.653 \quad t(\hat{\alpha}) = -2.008$$

$$\hat{\beta}_0 = 0.059 \quad SE(\hat{\beta}_0) = 0.049 \quad t(\hat{\beta}_0) = 1.208$$

$$\hat{\beta}_1 = 0.463 \quad SE(\hat{\beta}_1) = 0.303 \quad t(\hat{\beta}_1) = 1.528$$

$$\hat{\beta}_2 = 0.217 \quad SE(\hat{\beta}_2) = 0.083 \quad t(\hat{\beta}_2) = 2.612$$

Y is Real GDP growth rate

X_1 is Employment creation by Informal Sector (%)

X_2 is Annual percentage Growth rate of output per worker

X_3 is Mean weekly hours actually worked at national level

ϵ represents the error term

The results reflect the inherent complexity of economic relationships and emphasize that statistically insignificant findings are still informative. In particular, the marginal effect of mean weekly hours worked, coupled with the influence of multicollinearity, suggests avenues for further

investigation. These patterns point to the need for larger datasets and more sophisticated models to fully understand how labour productivity, informal employment, and labour participation jointly shape economic growth trajectories in developing regions.

Table 3.6: Coefficient Correlations

Model			Mean weekly hours actually worked at national level	Employment creation by Informal Sector (%)	Annual percentage Growth rate of output per worker (labour productivity)
1	Correlations	Mean weekly hours actually worked at national level	1.000	.179	-.254
		Employment creation by Informal Sector (%)	.179	1.000	-.838
		Annual percentage Growth rate of output per worker (labour productivity)	-.254	-.838	1.000
	Covariances	Mean weekly hours actually worked at national level	.007	.001	-.006
		Employment creation by Informal Sector (%)	.001	.002	-.012
		Annual percentage Growth rate of output per worker (labour productivity)	-.006	-.012	.092
a. Dependent Variable: Real GDP Growth Rate (%)					

Extraction method: Regression Analysis

Table 3.6 explores the linear relationships among variables through correlation and covariance matrices. A weak positive correlation ($r = 0.179$) is observed between mean weekly hours worked and informal sector employment, while a weak negative correlation ($r = -0.254$) exists between mean weekly hours worked and output per worker growth. A strong negative correlation ($r = -0.838$) between informal sector employment and productivity growth suggests that

higher informal employment is significantly associated with lower output per worker. Covariance values further support these patterns. A small positive covariance (0.001) between mean weekly hours and informal employment suggests slight co-movement. Negative covariances of -0.006 (mean weekly hours and productivity growth) and -0.012 (informal employment and productivity growth) confirm inverse relationships, though their magnitudes remain low.

Table 3.7: Collinearity Diagnostics

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				Constant	Employment creation by the Informal Sector (%)	Annual percentage Growth rate of output per worker (labour productivity)	Mean weekly hours actually worked at the national level

1	1	3.252	1.000	.00	.00	.01	.00
	2	.725	2.118	.00	.00	.28	.00
	3	.019	13.219	.00	.44	.24	.38
	4	.005	26.180	1.00	.56	.47	.62
a. Dependent Variable: Real GDP Growth Rate (%)							

Extraction method: Regression Analysis

In Table 3.7 Eigenvalues reflect the variance explained by each principal component. In Model 1, the first eigenvalue (3.252) indicates that a substantial portion of the total variance is explained by the first component. As seen in Model 2 (eigenvalue = 0.725) and beyond, the variance explained by subsequent components diminishes, which is typical as principal components become increasingly specific. Condition Index values increase progressively across models, suggesting growing multicollinearity. While Model 1 shows no concern (condition index = 1.000), Model 4 reaches a value of 26.180, approaching the conventional threshold of 30 that signals potential multicollinearity issues. This trend indicates that linear dependence among predictors increases in later models. Variance Proportions assess the extent to which each predictor contributes to the variance in a principal component. In early models, most of the variance is attributed to the constant term, with minimal contributions from independent variables. However, as models progress, the variance proportions associated with employment in the informal sector, productivity growth, and mean weekly hours worked increase, highlighting their growing role in explaining variation.

Collectively, these diagnostics provide critical insight into model stability. The rising condition index and shifting variance proportions signal the potential influence of multicollinearity, reinforcing the importance of cautious interpretation and suggesting further investigation and scope of research.

4. Conclusion

The pivotal role of labour within an economy cannot be overstated, as its performance directly influences the nation's GDP. Therefore, comprehending labour productivity and mean weekly work hours is imperative to assess the contribution of labour to the overall GDP. Particularly in an era where a significant portion of the workforce is engaged in informal employment, it becomes crucial to analyse the share of

informal employment in the nation's real GDP growth rate.

The research presents a comprehensive analysis of the intricate nexus between labour dynamics and economic growth within the context of South and Southeast Asian nations, employing regression techniques to illuminate key relationships. The model summary underscores a compelling narrative of the model's efficacy, revealing a strong correlation coefficient (R) of 0.947 and a substantial coefficient of determination (R^2) of 0.897, indicative of a profound explanatory power.

The regression analysis reveals that mean weekly hours worked at the national level may modestly influence real GDP growth rate, albeit marginally significant. Although informal sector employment and labour productivity were not statistically significant, it's likely due to data limitations rather than a lack of actual relationships, given supportive evidence from literature reviews. The existing literature underscores the positive relationship between informal employment and labour productivity, and the patterns observed suggest that labour market dynamics do interact meaningfully with macroeconomic growth. The findings underscore the importance of more granular, high-quality data and expanded models that consider additional explanatory factors, highlighting the need for further exploration.

The study identifies specific labour market variables that potentially influence economic growth. By highlighting the impact of informal sector employment, labour productivity, and mean weekly hours worked, policymakers can gain a clearer understanding of where to focus their efforts to stimulate economic growth. The findings offer guidance for policymakers in South and Southeast Asian countries. By recognizing the positive influence of labour productivity and mean weekly hours worked on economic growth, governments can tailor policies to enhance these aspects. For example, investing in

education and skills training programs to improve labour productivity or implementing policies that promote a healthy work-life balance to optimize weekly working hours.

South and Southeast Asian countries are diverse in terms of economic structures, levels of development, and labour market characteristics. Research in this area helps identify common trends, challenges, and opportunities across the region, enabling policymakers to develop tailored strategies for regional development and cooperation. Poverty Reduction: Labour is often the primary source of income for many households in these regions. By studying labour dynamics, researchers can assess how changes in employment patterns, productivity levels, and working conditions impact poverty levels. This knowledge can guide poverty reduction strategies that focus on improving labour market outcomes for vulnerable populations.

This understanding allows policymakers, businesses, and stakeholders to accurately assess the impact of labour dynamics on economic growth and development. By acknowledging the significance of labour productivity and the prevalence of informal employment, informed decisions can be made to implement policies and strategies that promote sustainable economic growth, foster job creation, and enhance the well-being of individuals within the economy. Thus, delving into labour dynamics provides valuable insights that are essential for steering the economy towards prosperity and resilience in an ever-evolving global landscape.

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