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The Rising Working Poverty, Dependency Ratio and its Effect on Labour Productivity in Sub-Saharan Africa

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Abstract

This study seeks to analyse the effect of demographic patterns, dependency ratio, and population growth rate on labour productivity. The study employed the panel data set comprising seventeen (17) countries of Sub-Saharan Africa (SSA), spanning 2001 to 2022 and retrieved from World Development Indicators (WDI). The linear model approach and robust generalised least square technique were applied. Working poverty female aged 15 to 24 and male 15 to 24 reveal a positive and significant relationship with labour productivity. Similarly, working poverty female aged 25 and above, male 25 and above and dependency ratio exert a negative and significant effect on the outcome variable. Population growth also has a positive sign. Since members of both sex groups aged 15 to 24 are crucial to driving productivity levels, institutions need to focus on addressing social welfare and providing decent work and environment for these categories to improve productivity.

Keywords: Dependency Ratio, Generalised Least Square, Labour Productivity, Population Growth, Working Poverty.

JEL Code: H3

Introduction

The emergence of COVID-19 global pandemic affected the labour market with young women being worst hit as well as recovery being the slowest. In most cases, even in other periods of no zoonotic diseases especially in the event of economic

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crisis, downturn or stagnation, young women are usually vulnerable against the backdrop of decent work deficits coupled with poor pay relative to their male counterparts (World Economic Forum, 2019; International Labour Organisation, 2021). Global working poverty among working people has escalated significantly. For instance, the share of workers living in extreme poverty went up from 6.7 per cent in 2019 to 7.2 per cent in 2020; representing an additional increase of about 8 million working poor. The largest rise in working poverty was experienced in low and lower-middle-income countries between 2019 and 2020, with increases of 1 and 0.9 percentage points. This is because the lower-middle-income countries witnessed the largest decline of 11.8 per cent in manufacturing employment, relative to 7.4 per cent in upper-middle-income, 3.4 per cent in low-income and 3.9 per cent in high-income countries respectively (ILO 2021).

However, it led to the resurgence and unlocking of stagnated growth coupled with the rise in unprecedented working poverty, inequality against competitiveness (labour productivity) especially in SSA countries. International Labour Organisation and the world of work are set to achieve the strategic objectives to provide for not only decent work for people but some jobs that could provide relative income to large number of workers across the globe. The objectives of ILO in 1999 are as follows: full employment, ensuring that all factor resources are optimally employed and efficiently used, providing improved levels of socio-economic security and conditions for workers in term of income that could sustain aggregate demand, universal respect for fundamental principles and rights at work, and the strengthening of social dialogue (Fields, 2003).

Concerns on productivity gaps in SSA are alarming as they originate from work poor categorised in ages and sex groups. This study seeks to explore the effect of low pay or working poverty on labour productivity, and the effect of working poverty classification in sex, age and dependency ratio on productivity. Globally, about 1.3 billion people survive on less than US$ 1 per day. In addition to that, 1.7 billion survive on between US$ 1 and US$ 2 per day respectively (European Commission, 2019). This shows that almost half of the labour force is absolutely poor. Underdevelopment and/or working or poverty wages are major characteristics of SSA labour market (ILO, 2003).

The share of SSA labour productivity in the global gross productivity has risen, though it cannot be equated or compared to South and East Asian regions of the world. In 1991 to 2000, labour productivity in SSA is estimated at -0.7%. It further rose between 2000 and 2009 to about 1.9%. In same respect, in South Asia, the value of labour productivity reached 3.4% in 1991 to 2000 and 4.5% in 2000 to 2009. In the same vein, in East Asia, it reached 7.6% and 7.8% in 1991 to 2000 and

2000 to 2009 respectively (ILO, 2011). Similarly, in the period, 2008 to 2013, productivity growth was 1.8% but it fell sharply to 0.5% in 2015 and 1.7% in 2017. The repercussion on working poverty recorded between 2000 to 2017 was that the number of persons living on 1.90 to 3.10 dollars stood at 23.8 by 2016 and rose to 30.0 and 30.04 in 2017 (ILO, 2015i).

The trend shows that about 137.3 million people suffered extreme working poverty in 2017, and the figure rose to 138.3 in 2018 and 138.7 in 2019, respectively (ILO 2018). This study is apt and timely due to the United Nations' Sustainable Development Goals that urgently call attention to important economic elements such as productivity, working poverty, and dependency ratio. Therefore, this study seeks to investigate the following research questions: is there any relationship between labour productivity and working poverty? Is there any causality between labour productivity and dependency ratio in SSA? To effectively address this topical issue, this study separates working poverty parameters into female aged within 15-24 and 25 plus persons who are working but poor, and male aged 15-24 and above 25 who are working but poor.

Closing gender gap in labour force remains a fundamental issue. In the 1990s, the concern to increase competitiveness in the African labour market was the focal point of discourse at the World Summit for Social Development, Copenhagen in 1995. In the same vein, this matter was reiterated at the United Nations (UN) Millennium Development Goals (MDGs) summit, New York in 2000. The subject matter also received attention at the World Summit on Sustainable Development, Johannesburg in September 2002. A major policy focus of the MDGs was to reduce working poverty. Despite this initiative, this goal was slowed down by uneven growth of decent work opportunities across African countries and migration (ILO, 2007).

Literature Review

Productivity level has much implication on a country's income, fiscal policy and sustainability. While the size of labour force has continued to rise in SSA, decent work has become a mirage. Bodea and Herman (2014), in their study, investigated the factors determining working poverty using Romanian data, spanning 2007 to 2011. They reported that low productivity causes increase in working poverty. Brida, Risso and Carrera (2009), applying the impulse-response function, found that real wages exert a small negative effect on productivity for a number of years, which is subsequently followed by a large positive shock on labour productivity. The study relied on Mexican data, spanning 1970 to 2004.

In another study, Fortune (2006) linked labour productivity with inflation and interest rate. The study revealed that the coefficient on the percentage change in labour costs has a negative increase on labour costs, by reducing profitability, investment, and the level of labour productivity. Samargandi (2018) employed OLS and fully modified OLS to estimate the determinants of labour productivity in MENA countries, spanning 1980 to 2014. The result of the study revealed that size of employment and compensation has negative effect on labour productivity.

Choudhry, Marelli and Signorelli (2016), in their study, employed panel data set to investigate the relationship between age dependency and labour productivity, using fixed effects model. The result revealed that higher age dependency directly exerts negative effect on labour productivity. Also, child dependency has a more adverse effect on labour productivity than old age dependency.

Methodology

This study employed unbalanced panel data set covering seventeen countries (17) in SSA. The objective is to investigate the nexus between labour productivity, working poverty of different age and sex characteristics, and labour dependency ratio. This study covers 2001 to 2022 and this periodisation is justified due to availability of data on the countries selected. Countries under SSA selected include Nigeria, Benin, Botswana, Burkina Faso, Cameroon, Cote d'Ivoire, Gabon, Gambia, Ghana, Liberia, Kenya, Malawi, Senegal, Sierra Leone, Togo, Zambia, and Zimbabwe. The selected countries are considered as a result of their vulnerability in the period of economic shocks. More so, they are third world countries faced with poor working conditions and absolute poverty. Data is sourced from International Labor Organization (ILO).

Model Specification

$$labrod_{it} = \beta_0 + \beta_1 \mathrm{wpm1524_{it}} + \beta_2 \mathrm{wpm25_{it}} + +\beta_3 \mathrm{Wpff1524}_{it}$$

$$+\beta_4 \mathrm{wpf25_{it}} + \beta_5 \mathrm{labdep_{it}} + \varepsilon_{it} \ldots\ldots (1)$$

Labrod is labor productivity expressed as competiveness, growth or living standard, wpm1524 is working poverty males within the age of 15 to 24, wpm25 denotes working poverty aged 25 and above, wpff1524 is working poverty of females between 15 and 24 years of age, wpf25 refers to working poverty females aged 25 and above, and labdep implies labour dependency ratio.

Estimation Technique

The panel ordinary least square model is expressed below in model 1 indicating the expression of dependent variable y_{it} alpha α, one independent variable βX_t with infusion of error term μ_t.

$y_{it} = \alpha + \beta X_t + \mu_t$ ....(2)

The application of generalized square method allows the elimination of serial correlated errors that may affect the robustness of the result.

Generalized Least Square Method (GLS)

$\mu_{it} = p\mu_{t-1} + e_t$ AR(1)..(3)

e_t -----iid(0 and constant variance)

Equation 2 is an example of serially correlated model. This model takes the lag value of the dependent variable as one of the independent variable where error term is further defined as a function of zero and constant variance. Here, OLS is not best linear unbiased estimator (BLUE).

However, to correct the problem of serial correlation that may persist in OLS, it is crucial to introduce the lag value of the dependent variable, lag value of the independent variable, and the lag value of the error term, as well in the model, as depicted in model 4.

$y_{t-1} = \alpha + \beta X_{t-1} + \mu_{t-1}$ ....(4)

The GLS model 4 is further expressed as

$y_{t-1} = p_{t-1} = \alpha(1-p) + \beta(X_t \; - pX_{t-1}) + e_{\,t}$...................... (5)

To establish whether a long run exists in the series presented in model 1, we employ the stationarity test for residual series.

The simple panel data set model with a first-order autoregressive component is estimated as:

$y_{it} = p_i y_{i_{t-1}} + z'_{it} Y_i \; + e_{it}$..(2)

There $i = 1, \ldots \ldots, N$ indexes panel $t = 1 \ldots \ldots T_i$ indexes time.. y_{it} is the outcome variable under estimation and the e_{it} is the error term, Z_{it} denotes panel specific mean and a time trend, Z_{it} = 1 so that the term $z'_{it}Y_i$ shows panel-specific means or fixed effects. If trend is specified $z' = (1, t)$ so that $z'_{it}Y_i$ shows panel specific means and linear time trends. Specifying no constant will not include the $z'_{it}Y_i$ term. The Im–Pesaran–Shin (2003) (xtunitroot ips) and Fisher-type (xtunitroot fisher) tests allow unbalanced panels, while the remaining tests require balanced panels so that $T_t = t$ for all i. Panel unit-root tests are used to test the null hypothesis H_O:=P_i=1 for all i versus the alternative H_a:=P_a=1 < 1. Depending on the test, H_a may hold, for one i a fraction of all i or all i the output of the respective test precisely states the alternative hypothesis. Equation 1 is often written as

Δy_{it}=$\emptyset \ y_{i_{t-1}}$ + $z'_{it}Y_i$ + e_{it}...(3)

The null hypothesis is then H_O: $\emptyset_i$=0 for all i versus the alternative H_a: $\emptyset_i$ <0

All types of panel stationarity test assumes all panels share a common autoregressive parameter, P. IPS (2003) developed a set of tests that relax the assumption of a common autoregressive parameter. Moreover, the IPS test does not require balanced datasets, though there cannot be gaps within a panel. The starting point for the IPS test is a set of Dickey–Fuller regressions of the form

Δy_{it}=$\emptyset \, y_{i_{t-1}}$ + $z'_{it}Y_i$ + e_{it}

$\emptyset$ is panel-specific indexed by i, Im, Pesaran, and Shin assume that e_{it} is independently distributed normal for all i and t and they allow e_{it} to have heterogeneous variances σ_i^2 across all panels. Under the null hypothesis that all panels contain a unit root, we have $\emptyset_i$ =0 for all i.

The alternative hypothesis is that the fraction of panels that follow stationary processes is nonzero; that is, as N tends to infinity, the fraction N_1 / N converges to a nonzero value, where N is the number of panel that are stationary whether you allow for serially correlated errors determines the test statistics produced, and because there are substantive differences in the output, we consider the serially uncorrelated and serially correlated cases separately.

First, we consider the serially uncorrelated case, which xtunitroot assumes when you do not specify the lags (1, 2, 3, or 4) option. Whether you allow for serially correlated errors determines the test statistics produced, and because there are substantive differences in the output, we consider the serially uncorrelated and serially correlated cases separately. We consider the serially uncorrelated case, which xtunitroot assumes when you do not specify the lags option. T, as fixed ips, produces statistics both for the case where N is fixed and for the case where $N \to \infty$ they used simulation to tabulate the mean and variance of t_i for various values of T under the null hypothesis and show that a bias-adjusted average of the $t_i's$ has a standard normal limiting distribution when series are stationary at first difference and some stationary at level value i.e combination of of 1(0) and 1(1), the panel auto regressive distributed lag model is adequate to be applied. Here, because t-bar N_T is less than even its 1% critical value, we strongly reject the null hypothesis that all series contain a unit root in favor of the alternative that a nonzero fraction of the panels represent stationary processes.

Data Analysis and Presentation

Pre Estimation Test

Table 1: *Test for Multicolinearity*

E(v)	wpm25	wpm1524	wpff524	wpf25	labdep	popgrwth	_cons
wpm25	.00113403						
wpm1524	-.00082576	.00069845					
wpff524	-.00005733	-.00008432	.00040009				
wpf25	-.00015049	.00014222	-.00023115	.00023052			
labdep	.002789	-.00176284	-.00264995	.00158887	.04492693		
popgrwth	-.0044755	.00319312	.00003921	.00068404	-.00782612	.04453757	
_cons	.01216126	-.01020361	.00328414	-.00494857	-.02966715	-.1229518	.48961303

Author's computation using STATA

The outcome of the above result indicates that regressors are not linearly dependent on one another. None of the regressors have a statistic above 0.80 implying that the model does not suffer multicolinearity problem.

Table 2: *Test for Stationarity Im–Pesaran–Shin unit-root test*

variable	t-bar	1%	5%	10%	P -value
labrod	-3.7751	-1.990	-1.850	-1.780	0.0000
wpm1524	-2.3265	-1.990	-1.850	-1.780	0.0070
wpm25+	-2.4985	-1.990	-1.850	-1.780	0.0053
Wpff15-24	-2.2081	-1.990	-1.850	-1.780	0.0370
ΔWpff15-24	-2.2704	-1.990	-1.850	-1.780	0.0053
wpf25	-2.0806	-1.990	-1.850	-1.780	0.0952
Δwpf25	-2.3304	-1.990	-1.850	-1.780	0.0003
labdep	-1.7082	-1.990	-1.850	-1.780	0.3157
Δlabdep	-3.1862	-1.990	-1.850	-1.780	0.0000

The result of table 5 shows that labour productivity (labrod), working poverty male (wpm15-24), and working poverty (wpm25+) is stationary as level value does not contain unit root. Working poverty female (Wpff15-24), working poverty female (wpf25+) contain unit root and non-stationary at level. However, including the difference operator Δ to difference series, became stationary at first difference and integrated of order one (1). Therefore, since there exist combination of 1(0) and 1(1), the kao cointegration test is employed to determine long run relationship.

Table 3: *Kao Cointegration test*

	Statistic	p-value
Modified Dickey–Fuller t	-14.7077	0.0000
Dickey–Fuller t	-11.8313	0.0000
Augmented Dickey–Fuller t	-9.4651	0.0000
Unadjusted modified Dickey–Fuller t	-17.4967	0.0000
Unadjusted Dickey–Fuller t	-12.1790	0.0000
Number of panels	17	
Number of periods	20	
Lags:	1.47 (Newey–West)	
Augmented lags:	1	

The algorithm or Augmented Dickey–Fuller test chooses an average of 9.4 lags across all panels to correct for serial correlation. Therefore, it is certain that test statistics reject the null hypothesis of no cointegration in support of the alternative hypothesis of the presence of a cointegrating relationship among panels.

The fixed and random effect model is employed to analyze the relationship between labour productivity and working poverty. The hausman specification test is used to select the most appropriate model suitable for this analysis. The number of observation is 374 and number of groups is 17.

Table 4: *Linear Model*

labprod	Fixed effect model	Random effect model
wpm25	.2601751**	-.0469985*
	.1884639	.1039716
wpm1524	-.0840834*	.0675723**
	.3637538	.0985676
wpff524	-.074793*1	.0533936*
	.5375156	.1234694
wpf25	-.1459876*	-.092936**
	.3051565	.0948627
labdep	-.1628299*\	-1.06248**
	2.045647	.7745357
popgrwth	3.533489***	2.643486***
	.6683411	.5745038
cons	-4.077593	-3.28582
	3.553267	1.816817

Number of obs	374	374
Number of groups	17	17
Prob > F	0.0000	0.0007
rho	.25824273	.07711685

Author's computation using STATA *** denote 1% ** 5% * 10%

The rule of thumb states that if the outcome of Hausman test indicates that the probability value is <0.05, then we apply the Fixed Effect, otherwise we employ Random effect model.

Test of H0: Difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 13.80

Prob > chi2 = 0.0320

From the outcome of test, the significant p value is greater than 0.05 percent; therefore, the random effect model is selected in this case. To solve for the problem of serial correlation when Random Effect model is selected, the xtregar option is used.

Table 5: *Fit Model Accounting for Autocorrelation Xtregar re*

labprod	Coefficients /standard errors
wpm25	-.1138701**
	.1010888
wpm1524	.1090651**
	.0893236
wpff524	.0440893*
	.1075184
wpf25	-.0566943*
	.0858773
labdep	-.8397343**
	.7069951
popgrwth	2.294085***
	.6035044
cons	-3.290243
	1.704207
Number of obs	374
Number of groups	17
Prob > F	0.0167
rho	.17010564

Source: World Development Indicators (WDI) Author's computation using STATA *** denote 1% ** 5% * 10%

The coefficient working poverty male who are aged 25 and above has negative effect on labour productivity at 5% level of significance. While working poverty male aged 15 to 24 have positive effect on labour productivity at 5%. In addition, working poverty female aged 15 to 24 have positive effect on labour productivity and working poverty female aged 25 and above exerts a negative effect on labour productivity at 10% respectively. The coefficient labour dependency ratio has a negative effect on labour productivity at 5% level of significance. However, population growth has a positive effect on labour productivity at 1% level of significance. Rho explained that 17% of variance emerged as a result of differences that exist across the panel which is also explained as intra class correlation. The result also depicts that differences across all units or groups are not correlated given corr (u_i, X=0 (assumed).

We employ the Drukker (2003) to implement the test with the test for serial correlation using xtserial option, the outcome of Prob > F = 0.0070 indicates that there exist serial correlation among the panels. Therefore the null hypothesis of no serial correlation is rejected. Thus, our data has the problem of first order serial correlation.

In addition to that, we employed the Modified Wald test for group heteroskedasticity, the outcome of the test shows Prob>chi2 = 0.0000 which led to rejection of null hypothesis of homoscedasticity. In essence, there is existence of heteroskedasticity. In addition to that, the Pesaran's test of cross sectional independence outcome shows Pr = 0.2709. Therefore, there is absence of cross section dependence in the model.

The null hypothesis is that there is no serial correlation. However, the above outcome leads us to accept the existence of first-order autocorrelation considering the significant p value Prob > F = 0.0070 as argued by Drukker (2003). Although xtreg option could solve for heteroskedasticity and autocorrelation problem, it does not provide option for vast variety of option as the xtgls model does. Thus, this study employed the xtgls option to explore further and resolve the critical issues that might reduce the robustness of result outcome. An important reason is that number of group panel is less than time period i.e N<T

Table 6: *Fits Models Correcting Issues in Linear Models*

Variables	Model 1	Model 2	Model 3	Model 4
wpm25	-.0928587***	-.1122064***	-.113292***	-.13809***
	.0412072	.0218295	.030273	.0336754
wpm1524	.0863231***	.0980763***	.0975231***	.0993614***
	.0372291	.0193216	.0271613	.0264282
wpff524	.0100128***	.0404032***	.041556***	.0681609***
	.0460484	.0140259	.0217507	.0200022

wpf25	-.0042019***	-.0336769***	-.0414139***	-.0448192***
	.0324104	.009892	.0144518	.0151828
labdep	-.2491985***	-.6834941***	-.7321105***	-.5783566***
	.3140724	.1316174	.2041714	.2119597
popgrwth	.6788108***	1.702096***	1.872684***	1.653882***
	.5041826	.2748103	.3868609	.2110393
cons	-.4920554	-2.25327	-2.333018	-2.392128
	1.281054	.7691503	1.0595	.6997235
Number of obs	374	374	374	374
Number of groups	17	17	17	17
Time periods	22	22	22	22
Prob > chi2	0.0372	0.0000	0.0000	0.0000

Source: WDI Author's computation using STATA *** denote 1% ** 5% * 10%

Xtgls fits panel data linear models allow the use of feasible generalized least squares. This allows opportunity for estimation in the presence of AR(1) autocorrelation within panels and cross-sectional correlation and most importantly heteroskedasticity across panels.

Model 1 allows variances to differ for each of the seventeen (17) countries. The result shows that there is no heteroskedasticity among groups considering the significant p values of all coefficients of all groups that make the panel. Model 2 assumes that the error terms of panels are correlated, in addition to having different scale variances. The result shows that panels are not correlated in model 3. In model 4, if corr(psar1) is specified, each group is assumed to have errors that follow a different AR(1) process. All coefficients have significant effect on the outcome variable taking account of heteroskedasticity, autocorrelation and associated challenge that affects the robustness of linear models. For instance, working poverty male aged 25 and above depicts a negative effect on labour productivity across all models. The coefficient working poverty male aged 15 to 24 means a positive effect on labour productivity. Working poverty female aged 15-24 reveals a positive relationship with labour productivity. Working poverty female aged 25 and above exerts a negative effect on the outcome variable. Labour dependency ratio has a negative sign while population growth has a positive sign across all panels. The result of generalized square regression shows robust outcome looking at the small standard errors and Z values greater than 2 as compared to fixed effect and random effect analysis with larger standard errors and small t values less than 1.96.

The post estimation test is important to explain the reliability and validity of hypothesis in this study. The multicolinearity test is employed using the variance matrix of coefficients of xtgls model, including Hausman specification test and estat summarize option.

Table 7 below shows the descriptive statistics consisting of mean and standard deviation of each coefficient. The mean value of labour productivity is 1.67 and deviation from the sample mean is 4.56. While the minimum value in the series is -317, the maximum value is 21.6.

Table 7: *Descriptive Statistics Estimation Sample XTGLS*

Variable	Mean	Std. dev	Min	Max
labprod	1.630481	4.56486	-31.7	21.6
wpm25	31.92406	18.29384	1	67.7
wpm1524	40.85963	19.75525	1.8	75.5
wpff524	38.31818	18.91966	2.4	74.5
wpf25	35.40267	18.97682	2.4	74.9
labdep	1.847112	0.5600639	1.14	3.33
popgrwth	2.595989	0.5779319	0.2	4.7

Author's computation using STATA

In addition, the mean population of working poor particularly male aged 25 and above (wpm25) is 31.92 and the deviation from the sample mean is 18.2, minimum value in the series is 1 while maximum is 67.7. Similarly, the mean population of working poor male aged 15-24 (wpm1524) is 40.8 and deviation from the sample mean is 19.75, minimum value in the series is 1.8 while the maximum value is 75.5. Also, the mean population of working poor female aged 15-24 (wpff524) is 38.3 and deviation from sample mean is 18.9, the minimum value in series is 2.4 while maximum is 74.5.

On the other hand, the mean population of working poor female aged 25 and above (wpf25) is 35.40 and deviation from the sample mean is 18.9, the minimum value in the series is 2.4 and maximum is 74.9. The mean of labour dependency ratio is 1.84 and deviation from the sample mean is 0.56, the minimum value in the series is 1.14 and maximum 3.33. However, the mean value of population growth is 2.59 and deviation from sample mean is 0.57, minimum value in the series is 0.2 while maximum is 4.7

Summary, Conclusion and Recommendations

Today, productivity level is an issue that every single economy deals with. This defines competiveness among nations. An obstacle to this global competitiveness is working poverty as most workers within varying age groups engaged in production are absolutely poor. The study covered 17 SSA countries spanning 2001 to 2022. This study focused on different age and sex groups engaged in labour force that are poor to ensure robustness of result. Generalized least square model was employed and the result revealed that independent variables and labour productivity are statistically significant in the long run. The study found that there was a reduction in labour productivity among working poverty groups for males and females aged 25 and above, while there was increased labour productivity among those aged 15 to 24. Our results suggested that aged 15 to 24 for both sexes are crucial for driving productivity levels in the region despite their economic and social status. Therefore, policies and institutions need to focus on youth employment and addressing social welfare, providing decent work and environment for those in this category.

Again, labour dependency ratio has a negative effect on labour productivity, showing that much of the population constitute dependents who are catered for by the work force, particularly those aged 25 and above. It is not surprising that those in this category earn poor income and as a result of 'dependents' problem, they are confronted with challenges relating to productivity and living standard. Thus, a deliberate policy framework to support dependent population through social welfare and health insurance schemes cannot be overemphasised. While population growth has a positive sign across all panels, our study suggests manpower training to improve quality and productivity levels, and addressing the migrants' problem that has continued to pose challenges in the labour market.

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