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Macroeconomic Policy Formulation: The Driver of Economic Welfare in Ghana

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ABSTRACT
Dialogue on the effects of macroeconomic policies relative to the welfare of citizens has remained virtually unchanged since time immemorial. These economic policy discussions have had different dimensions, from subjective to objective welfare. As a contribution to literature, this paper thoughtfully wades into this discourse with a specific reference to national policies on nominal GDP growth rate, inflation, and unemployment and how they interact to impact the welfare of citizens. It is common knowledge that macroeconomic policy decisions affect the very survival of citizens; however, it is unclear how policymakers communicate the long-term impact of these blueprints on the livelihoods of citizens to the implementing authorities. What is in the public domain are seminal reports on nominal annual rates of these macroeconomic variables, which are thought to either imply an improvement or a deterioration in the well-being of citizens. Indeed, not every gain in nominal rates, particularly GDP, can be construed as an improvement in the economic well-being of citizens. This study questions whether different approaches to designing and implementing macroeconomic policies are the reasons for the mismatch in the living standards of people around the world, or whether the free market economy, which is deficient in developing people's capabilities, is rather dictating the well-being of citizens. The vector error correction model (VECM) results indicate that economic growth (using GDP as a proxy) has a negative effect on welfare in the long run. As such, we believe that national governments should establish and implement comprehensive and long-term macroeconomic policies capable of boosting the welfare of citizens through creating jobs of all varieties, because mere annual gains in macroeconomic indicators do not realistically reflect the economic welfare of the citizenry.

Keywords*:* Economic welfare; citizens; macroeconomic policy implementation, and development

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INTRODUCTION

Across the globe, governments strive to enhance the economic well-being of their citizens. This is expected to be understood by civil society without any misperception if indeed the former's intent is followed conclusively. The policy debate, however, highlights the staggering gaps in the welfare of citizens worldwide. This paper examines the ability of macroeconomic policy decisions to positively affect the welfare (used in the sense of economic development) of citizens. In doing so, we raise concerns about the global mismatch in living standards of citizens. To achieve the objective of this study, researchers question whether, in line with specific macroeconomic indicators, national policy design better explains economic well-being, or should the free-market economy be left to dictate welfare (see Mookherjee & Ray, 1999; International Monetary Fund, 2017). We think that prioritising policies that go beyond the free-market system should be paramount in public policy design and implementation (see also Feldman, Hadjimichael, Kemeny & Lanahan, 2016). In this way, governments become impartial capacity builders, helping economic agents, enterprises, and communities reach their maximum potential (Feldman et al., 2016).

On the issue of the global mismatch in the welfare of citizens, societies are naturally divergent in attitudes, preferences, and cultural orientations, and so are development disparities (Mookherjee & Ray, 1999; Hamedani & Markus, 2019). It is important to emphasise that the usage of "societies" in this sense refers to national political groupings presented with the mandate of state governance. For instance, the divergence in cultural orientations is directed at the differences in economic policy design and implementation. Differences in early capital accumulation between the Global South and their colleagues in the North, according to the Neoclassicals, account for the much-discussed development mismatch. Intuitively, however, Hoff and Stiglitz (2001; Zhenmin et al., 2020) believe that the development differential surpasses mere capital accumulation; not even distortions funded by governments through tariffs and subsidies sufficiently account for the gaps in development.

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Sighted works on development economics have deliberately ignored a link between economic development (welfare of citizens) and macroeconomic policy formulation and implementation. The bulk of research works that we know have only made attempts at demonstrating a relationship between a mono macroeconomic variable and economic development. For instance, inflation and economic development (see de Carvalho, Ribeiro & Marques, 2018), economic growth and human development growth (Gopalakrishna & Jayaprakash, 2012), inter-relationship between economic development and human development (Omar, 2020), direct and indirect effects of unemployment on poverty and inequality (Saunders, 2002; Berry, 2013; Piotrowska, 2016), etc. As we shall soon find out from the statistical model, whether macroeconomic policy formulation should be central in deciding welfare or whether free markets are preferred in our path to economic development. In their study on macroeconomic policies linked to economic development, de Carvalho et al. (2018) realise that this area has been understudied and therefore needs an extended literature. Even studies that waded into similar research limited their efforts to economic growth, which is a narrow term relative to economic development.

The opinion of this study, therefore, is that macroeconomic indicators of every country have far-reaching implications for development, despite the fact that their respective contributions, according to growth theories, have sparked extensive discussion (Feldstein, 2017). For example, the nominal Gross Domestic Product (GDP) is used as a barometer of economic performance, implying an increase in real GDP-GR is seen as an improvement in welfare, signifying the robustness of the economy (Callen, 2020). While this viewpoint is welcome, Dynan and Sheiner (2018) investigated the economic sense of the nominal GDP as an aggregate measure of well-being and argued against the exclusion of non-market economic activities that impact welfare. This falls under the purview of statistical policy preference, as proposed by the Neoclassicals. Parts of the real GDP model are conceptually flawed. According to Dynan and Sheiner (2018), digital activities in various economies, combined with the operations of multi-national corporations, tend to skew off any conscious attempt to measure well-being. Besides, products that are quality time-invariant and time-variant have not fitted well into the real GDP model and may need a radical statistical policy concern rather than mere preference and political tones.

This current study makes input to the existing body of knowledge in development economics in various layers; it demonstrates the valuable contribution of joint macroeconomic policy initiatives that propel economic development, as there is yet to be a single study in Ghana, particularly connecting the joint macroeconomic policy design to economic development. If there are studies that have ventured into linking macroeconomics, then they should be those to growth, specifically short-term growth. This way, recommendations will help policymakers appreciate the critical activities of national governments that smooth economic development. The model results will serve as a reference point for corrections to policy deviations.

LITERATURE REVIEW

Economic Growth and Economic Well-being

Over the past century, the paradigm of the neoclassical approach to issues of economic development has been one of inter-country comparison (Mookherjee & Ray, 1999). This perspective has provoked researchers to rapid publications both theoretically and empirically on the subject matter (Solow, 1956; Mookherjee & Ray, 1999). This is because, development economics has presented academicians with much more tussle than envisaged; no generally accepted explanation is agreed upon to economic development and reasons for the yawning inter and even intra-country development disparities in terms economic well-being. Growth and development are thought of as separate knowledge areas, with the former being an area that lends itself to easy comprehension while the latter does not (Lucas, 1988). In the words of Schumpeter (1942), "Whereas economic growth is a simple increase in aggregate output. In his *Theory of Economic Development,* he argues that a higher quality growth trajectory can be achieved through innovation and entrepreneurship; this, he likens to economic development.

The relationship between economic growth and economic development ideally should be a positive one. We do know that growth occurs when there are output increases through the additions of inputs such as technology or innovations that enhance efficiency (Feldman et al, 2016). In part, the straightforwardness of the definition given economic growth in terms of increase output seems to suggest that economic growth overshadows economic development in most academic engagements. This notwithstanding, increases in output could be associated with improved well-being (quality of life) of the citizen or otherwise. Economic development is difficult to quantify and so appears fuzzier as it means "all things to all men and women" (Armdt, 1987, p.6); quoted by Feldman, 2016). And so, there is a mixed finding. Ranis (2004) believes economic growth should improve the quality and well-being of the individual since it is part of the development process. In the cases of Susanto (2014) and Suryahadi, Hadiwidjaja, and Sumarto (2012), economic growth negatively impacts poverty rate as a reflector of economic development; thus, improved economic growth has a contractionary effect on poverty rate.

In Sanfey and Teksoz (2007; cited in Perovic & Golem, 2010) GPD per capita impacted positively on self-reported well-being. Gross Domestic Growth was found to be an economic life-enhancing indicator per the results of Perovic & Golem (2010) and was regarded as a relevant instrument for economic policy initiative. However, the seminal paper of Easterlin (1974), GDP status does not affect individual happiness (happiness is subjectively applied). Similarly, a study by Frey and Stutzer (2002a) reported that between 1946 and 1991, GDP per capita increased in the United States without positively affecting average happiness (there was a drop in average happiness). As the aspirations of the individual change, any increase in income may not necessarily have the expected increase in happiness (Perovic & Golem, 2010). In their exploration of the relationship between subjective well-being and income, Sacks, Stevenson, and Wolfers (2010) show that the well-being of citizens is

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enhanced in countries with higher GDP per capita. They go on to elaborate that irrespective of whether it is an inter-country or intra-country comparison, the satisfaction-income gradient is averagely the same. Suggesting that absolute income is typically important in influencing the economic welfare of the citizenry.

Inflation and Economic Well-being

Inflation is considered having a lowering effect on the standard of living of citizens (Shiller, 1996; Perovic & Golem, 2010). Although this assertion may differ across countries, in majority of reported cases, inflation has a deteriorating effect on the purchasing power of citizens (e.g., Frey & Stutzer, 2002a; Shiller, 1996). Several empirical evidence abound on how inflation influences standard of living. In Ghana, for instance, Osiakwan (2013) linked inflation negatively to the standard of living of citizens (HDI as a benchmark). The study emphasised that the ordinary Ghanaian is worst off in times of persistent and continuous general price increases. In another striking revelation, Zezza et al (2011) believe business planning gets disrupted with increasing inflation. They also contend that inflation has a deteriorating effect on nutrition, health, and children's education. Inflation is only desirable at minimally controllable rates of between 1 and 5 percent maximum (Frey & Stutzer, 2002a). In his argument in favour of economic development, Dorrance (1963) sees inflation as an instrument of development policy if national governments are able to persuade the central banks to create money (to be done cautiously) for development programmes. In this case, inflation is seen as having a positive effect on living standards since in programme execution more labour is employed which enhances the lots of citizens. Cardoso's (1992) working paper discussed how regressive inflation is, as it affects poverty, especially those living below the poverty threshold. The empirical evidence of his paper shows how disproportionate wages increased comparative to prices during rising inflation in Latin America. The economic sense of this argument is that, inflation makes individuals living below the poverty line worse off thereby having a negative impact on living standards of citizens.

Unemployment and Economic Well-being

Whether under the objective (as in our case) or the subjective economic well-being consideration, unemployment has been a major macroeconomic policy that can influence the welfare of the citizen. Literary, unemployment affects both the employed and the unemployed. Whilst it has a direct effect on the unemployed, subjectively it affects the employed because they may be unenthused about the unfortunate conditions of the unemployed (Frey & Stutzer, 2002a; cited in Perovic & Golem, 2010). Objectively, Siyan, Adegoriola, and Adolphus (2016) reveal that unemployment has a negative toll on poverty, and therefore, the relationship is positive. Thus, as unemployment increases, poverty worsens (equally goes up). Unemployment has succeeded in consolidating and perpetuating poverty in most parts of the African continent, as Saunders (2002) laments about how it has eroded funds for poverty reduction projects which have adversely affected welfare of citizens. Supporting this, Gregory, and Sheehan (1998) identified unemployment as the fundamental cause of poverty which erodes economic welfare.

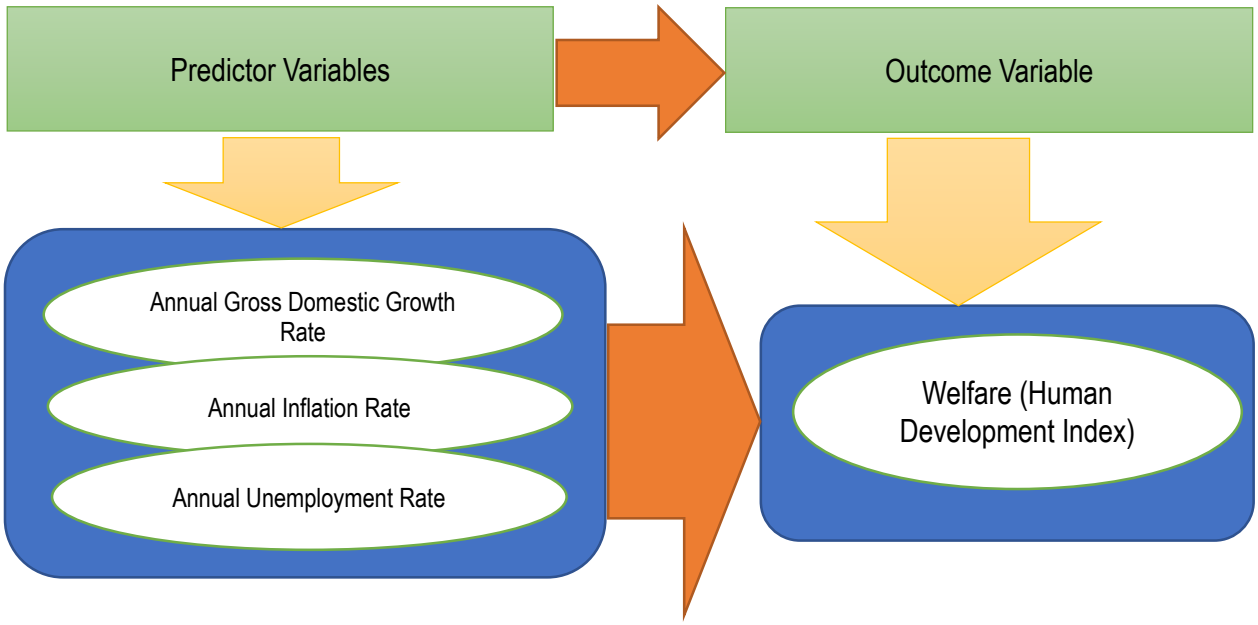

Figure 1: Conceptual Framework

Source: Researchers' construct (2022)

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METHODOLOGY AND MODEL SPECIFICATION

Time series data covering 1980 to 2019 were used to determine the interactive effect of Gross Domestic Product Growth Rate (GDP-GR), Annual Inflation Rate (INFL-R), and Annual Unemployment Rate (UNEMPL-R) on Economic Development ([ECO-DEV] often referred to as economic welfare or citizens' livelihoods). It is relevant to re-emphasise that economic development is used in the sense of the UNDP's simplification for economic development to entail the welfare of the citizenry in terms life expectancy, standard of living, per capita, and knowledge attainment.

Justification for the Choice of Variables

This study has four variables; the first is the human development index (HDI) which serves as the outcome variable. It is technically used to refer to the welfare of citizens, interpreted as economic development in this context. It was chosen to ascertain its linkage with the independent variables (GDP-GR, INFL-R & UNEMPL-R). Thus, how governments consciously make macroeconomic policy decisions with respect to GDP-GR, INFL-R & UNEMPL-R to impact living standards of citizens in the long run.

Economic growth (proxied by GDP-GR) was selected as one of the macroeconomic variables that are core to national and central governments' policy decisions. It is realised that, in most cases economic growth is loosely used to imply economic development. And so, GDP-GR was used as a proxy for economic growth to gauge the ability of national policy design on GDP-GR to positively impact the welfare of citizens. In their respective study models, first, Ranis (2004) believes economic growth as a predictor variable improves the quality and well-being of the individual since it is part of the development process. In the cases of Susanto (2014) and Suryahadi, Hadiwidjaja, and Sumarto (2012), economic growth used as an explanatory variable negatively impacts poverty rate as a reflector of economic development; thus, improved economic growth has a contractionary effect on poverty rate. These differing results and academic arguments partly informed the choice of economic growth (proxied by GDP-GR) as one of the macroeconomic variables that most national governments centre their policy decision.

Inflation is traditionally known to be detrimental to citizens' welfare when it is spiral. Thus, a sustained increase in the general price level of goods and services worsens the real wage and living conditions. Flowing from this insights, inflation was included in the econometric model to determine its macroeconomic relationship with welfare of citizens. For instance, Perovic and Golem (2010) consider inflation as having a lowering effect on the standard of living of citizens since it deteriorates the purchasing power of citizens. This way, a deliberate national policy decision could be used to arrest any further unwelcome general price level.

The inclusion of unemployment in the econometric mode was based on the literature pointing to it as being a major macroeconomic policy that can influence the welfare of the citizen. Literary, unemployment affects both the employed and the unemployed. Reasoning from this trajectory, the study wanted to test the possibility of a conscious national policy that could work to create jobs, having identified the link between unemployment and economic development (welfare of citizens).

Equation one (Eq. (1)) gives the general form of the relationship between economic development (HDI) and GDP-R, INFL-R and UNEMPL-R.

$$ECO - DEV = f[GDP - GR, INFL - R, UNEMPL - R] \quad (1)$$

Eq. (1) can be transformed into a multiple regression model as shown in eq. (2)

EC-DEV =

$$\left[B_0\right] + \left[B_1(GDP - GR)\right] + \left[B_2(INFL - R)\right] + \left[B_3(UNEMPL - R)\right] \quad (2)$$

Where:
GDP-GR = Annual growth rate of GDP at market prices based on constant 2010 U.S Dollars; INFL-R = Consumer price index as reflected in the annual percentage change in cost to average quantity acquired by the consumer (see eqn. [4]). UNEMPL-R = Share of the total labour force without work but are available for and seeking employment.

HDI =

$$f\left[\frac{\sum(LE - INDEX) + (EDU - INDEX) + (GDP - INDEX)}{3}\right] \quad (3)$$

Where:

HDI = Human Development Index as defined by UNDP standards as follows:

LE-INDEX = Life Expectancy Index

EDU-INDEX = Expected and Average Years of Schooling Index
GDP-INDEX = Decent Standard of Living (Measured by GDP per capita in this study)

INFL-R (Laspeyres Price Index) =

$$\left[\frac{\sum(Pi,t) \times (Qi,0)}{\sum(Pi,0) \times (Qi,0)}\right] \times 100 \quad (4)$$

Where:
Pi, 0 = Price of the individual item at the base period
Pi, t = Price of individual item at observation time t
Qi, 0 = Quantity of individual item at the base period

Source: (UNDP, 2020)

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Theoretical Model Specification

As suggested by Engle and Granger (1987; Darko, 2015), variables of interest found to be cointegrated at order one [I(1)], then there is need to ascertain proper statistical inferences through the Vector Autoregressive (VAR) Model and the Vector Error Correction Model (VECM). A modification is done to the theoretical model at the instance of this current study.

$$\ln HDI_t = \varphi + \sum_{m=1}^{k} \mathfrak{T}_m \ lnH + \sum_{j=1}^{k} \varpi_j \ln GDP - GR_{t-j} + \sum_{n=1}^{k} \phi_n \ln INFL - R_{t-n} + \sum_{s=1}^{k} \epsilon_s \ lnUNEMPL - R_{t-s} + \mu_{it} \quad (5)$$

$$\ln GDP - GR_t = \varphi + \sum_{m=1}^{k} \mathfrak{T}_m \ lnHDI_{t-m} + \sum_{j=1}^{k} \varpi_j \ln GDP - GR_{t-j} + \sum_{n=1}^{k} \phi_n \ln INFL - R_{t-n} + \sum_{s=1}^{k} \epsilon_s \ lnUNEMPL - R_{t-s} + \mu_{it2} \quad (6)$$

$$\ln INFL - R_t = \varphi + \sum_{m=1}^{k} \mathfrak{T}_m \ lnHDI_{t-m} + \sum_{j=1}^{k} \varpi_j \ln GDP - GR_{t-j} + \sum_{n=1}^{k} \phi_n \ln INFL - R_{t-n} + \sum_{s=1}^{k} \epsilon_s \ lnUNEMPL - R_{t-s} + \mu_{it3} \quad (7)$$

$$\ln UNEMPL - R_t = \varphi + \sum_{m=1}^{k} \mathfrak{T}_m \ lnHDI_{t-m} + \sum_{j=1}^{k} \varpi_j \ln GDP - GR_{t-j} + \sum_{n=1}^{k} \phi_n \ln INFL - R_{t-n} + \sum_{s=1}^{k} \epsilon_s \ lnUNEMPLR_{t-s} + \mu_{it4} \quad (8)$$

Vector Error Correction Modeling (ECM)

$$\triangle y_t = \varphi + \sum_{m=1}^{k-1} \mathfrak{T}m \triangle y_{t-m} + \sum_{j=1}^{k-1} \varpi_j \triangle x_{t-j} + \sum_{n=1}^{k-1} \phi_n \triangle r_{t-n} + \sum_{s=1}^{k-1} \epsilon_s \triangle q_{t-s} + \lambda ECT_{t-1} + \mu_t \quad (9)$$

RESULTS AND DISCUSSION

This study set out to assess macroeconomic policy design and implementation and how they (GDP-GR, INFL-R & UNEMPL-R) interactively work to influence the economic well-being of citizens in Ghana. This was done by regressing economic growth (proxied by nominal GDP growth rate), unemployment rate and inflation rate onto the dependent variable (Human Development Index [HDI]). We considered HDI as a proxy for economic welfare. According to the United Nations Development Programme [UNDP] (2020), HDI is the summary average achievement of human development in terms of long life, healthy life, better standard of living and being knowledgeable (education). And so, this study strictly adheres to the definition given by UNDP to HDI.

Variable Stationarity Tests and Optimal Lag Length Determination

Table 1: Augmented Dickey-Fuller Stationarity Test (Constant)

	Levels		First Difference			
Variable	ADF t-stars	Critical Value	ADF t-stats	Critical Value	Order of Integration	Conclusion
HDI	-2.238531	-3.605593	-4.078519	-3.61045***	1	I(1)
INFL-R	-4.730778	-3.605593	-5.139647	-4.23497***	1	I(1)
GDP-GR	-3.239897	-2.936942	-6.933901	-3.61045***	1	I(1)
UNEM-R	-2.158959	-4.252879	-3.904208	-3.63407***	1	I(1)

Source: Researchers' construct (2022)
Notes: *** under critical values at first difference denote 1% significant level.

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Results from Table 1 indicate non-stationarity at levels I (0) of all variables. Integration of order one [I (1)], all variables became stationary satisfying a necessary condition for the estimation of co-integration and error correction models.

Table 2: Augmented Dickey-Fuller Stationarity Test (Constant & Trend)

	Levels		First Difference			
Variable	ADF t-stars	Critical Value	ADF t-stats	Critical Value	Order of Integration	Conclusion
HDI	-2.238531	-3.605593	-4.600800	-4,211868***	1	I(1)
INFL-R	-4.730778	-3.605593	-5.139647	-4.234972***	1	I(1)
GDP-GR	-3.239897	-2.936942	-6.970799	-4.211868***	1	I(1)
UNEM-R	-2.158959	-4.252879	-3.887202	-3.548490***	1	I(1)

Source: Researchers' construct (2022)
Notes: *** critical values at first difference denote 1% significant level.
**Critical values at first difference denote 5% significant level

Table 3: Determination of the Optimal Lag Length

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-365.776	NA	32863.2	21.75155	21.93112	21.81279
1	-243.896	207.9135*	65.39055	15.52329*	16.42115*	15.82949*
2	-233.73	14.94987	96.21803	15.86647	17.48262	16.41763

Source: Researchers' construct (2022)

*Indicates lag order selected by the criterion
LR: sequential modified Likelihood Ratio (LR) test statistic (each test at 5% level)
FPE: Final Prediction Error
AIC: Akaike Information Criterion
SC: Scharz Information Criterion
HQ: Hannan-Quinn Information Criterion

Lag 1 under AIC is appropriate for the model analysis since AIC has the lowest value among the asterisked criteria. In simple terms, what that means is that, if there are shocks or displacements with respect to the regressors, the response variable will take a year to react to the shocks brought about by the explanatory variables (GDP-GR, INFL-R & UEMPL-R).

Johansen Cointegration Test

Table 4: Johansen Unrestricted Cointegration Test (Trace & Max-Eigen Value)

	Trace Test				Max-Eigen Value Test		
No. of CEs Hypothesized	Eigen Value	Trace Stats	5% Critical Value	Prob**	Max-Eigen Stats	5% Critical Value	Prob**
None*	0.610120	54.15082	47.85613	0.0114	31.08327	27.58434	0.0170
At most 1	0.285118	23.06755	29.79707	0.2428	16.04874	21.13162	0.2220
At most 2	0.190848	7.018811	15.49471	0.5754	6.988374	14.26460	0.4905
At most 4	0.000922	0.030347	3.841466	0.8615	0.030437	3.841466	0.8615

Trace Test indicates 1 cointegration eqn. (s) at 0.05 level
* Denotes rejection of the hypothesis at 0.05 level

** Mackinnon-Haung-Michelis (1999) *p*-values

Source: Researchers' construct (2022)

Since in VAR Modeling all variables are endogenous, the dependent variable in the system is the function of its lagged value plus the lagged values of the other variables in the model. Note that the VAR model is specified at levels not in differences, otherwise model misspecification will arise. The entire Model uses an optimal lag of one as indicated by the AIC (See Table 3). This is reflected in the lag used for HDI in the first and second years. However, the rest of the variables (independent variables) adopted their autonomous lags. Thus, the lapse of time for a deviation to stabilise in the long run equilibrium.

As stated earlier, once the variables are stationary at order one, the option that is available is to run both the Vector Autoregressive Model (VAR) and the Error Correction Model (ECM). The Normalised Cointegration Coefficient of first Equation is presented below. It is important to note that this result was based on the Trace Test, and the Normalised equation indicates a long run relationship among variables.

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lnHDI = 0.210999*lnGDP-GR+1.194927*lnINFL-R+4.130159*lnUEMPLR-R

1.000 (0.94566) (0.16933) (0.98971)
[0.2231] [7.0568] [4.1731]

From the Normalised Equation, GDP-GR exhibits a negative relationship with economic well-being in the long run. Thus, under the ceteris paribus assumption, a unit increase in GDP growth will lead to about 21.1 percent deterioration in the well-being of the Ghanaian. Explaining the sense in this revelation, national governments should be cautious of deliberate macroeconomic policies that seek to merely increase or improve GDP-GR, since mere improvements in GDP rates do not automatically reflect a positive welfare. This is supported by Schumpeter (1942) who reveals that economic growth (proxied by GDP growth rate) is merely a simple increase in aggregate output without considering a quality growth trajectory. In tandem with the finding of this paper, Armdt (1987, p.6) admits that not all output increases are translated into improved economic well-being. It certainly tells a story of not every growth in the economy through GDP figures has a direct positive effect on economic development proxied by human development index (HDI) in terms of education index, reduced illiteracy rates, improved per capita and reduction in poverty. In his seminal paper, Easterlin (1974) concludes that GDP growth rate does not all times positively reflect the subjective well-being of citizens. Going by the questions posed for this research, the long-run negative relationship between economic growth and welfare tends to favour the free-market economy to dictate welfare.

In like manner, inflation has an inverse relationship with economic well-being in the long run since citizens are placed at a disadvantage with increase prices of goods and services in the economy. This vindicates the involvement of national governments to design macroeconomic policies that tend to have a lowering effect on inflation to help improve the purchasing power of consumers. Thus, real wages are improved leading to improved welfare of citizens. Standard of living (SOL) of nationals gets worsened or gets eroded with sustained increased in general price level unaccompanied by food production. The empirical economic sense is that, a percentage increase in the general price level of goods and services in the country will result in about 13 percent reduction in the objective well-being of the Ghanaian through worsening of the HDI. This revelation is supported by the position of Shiller (1996; Perovic & Golem, 2010).) who believe that inflation has a lowering effect on the standard of living of citizens across globe in most studied instances (see for example, Frey & Stutzer, 2002a). In Ghana, Osiakwan (2013) established a negative link between inflation and SOL of citizens (as measured by HDI). In contrast, Dorrance (1963) sees inflation rather as a tool for economic development on condition that governments policies favour money creation to undertake development projects. More intriguing is the finding by Cardoso (1992) when he emphasised that inflation has a more devastating effect on the lives of citizens living below the poverty line. Findings in this paper supports national policies to be tilted towards developmental projects and deliberate creation of money to be prudently applied and invested in productive ventures, particularly the industrial sectors.

Similarly, it is a reality that with a reduction in unemployment in the system, HDI is scheduled to improve since unemployment is negatively linked to the welfare of citizens in the long run (as measured by HDI). As observed from the normalised first equation which is the target of this study, a percentage increase in the already deplorable state of the unemployment status in the country, living conditions of citizens are suggested to worsen by a whopping 80 percent and vice versa. Studies on both the subjective well-being (see Frey & Stutzer, 2002a and Perovic & Golem, 2010) and the objective economic welfare of citizens (Saunders, 2002 and Gregory & Sheehan, 1998) have justified in their findings the devastating nature of increase unemployment on living standards of citizens across globe. Following this finding, the economy is made better if national governments are allowed to make macroeconomic policies that will work to reduce unemployment. This could be a conscious effort by national policies to increase capital investments in the industrial sector where job openings are inevitable. This should however be done prudently since employment creation has a natural threshold in order not to spark inflation.

Table 7: Forecast Variance Decomposition: Human Development Index (Economic Well-being)

Period	S.E.	HDI	GDPGR	INFL	UEMPLR
1	0.388751	100.0000	0.000000	0.000000	0.000000
2	0.587539	96.07549	0.020987	2.099690	1.803833
3	0.799333	90.60155	0.263280	4.828010	4.307160
4	1.005055	87.33204	0.251055	5.745934	6.670968
5	1.191566	85.44123	0.179514	5.951617	8.427637
6	1.360958	84.13772	0.156287	6.164296	9.541702
7	1.517347	83.18427	0.161599	6.458382	10.19575
8	1.663890	82.53162	0.167695	6.728178	10.57250
9	1.802896	82.11674	0.168945	6.922808	10.79150

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10	1.936400	81.85605	0.166683	7.057402	10.91986

Source: Researchers' Computations (2022)

The Johansen (1995) Cointegration analysis basically the long run relationship between and among studied variables. However, the stability of these relationship between and among variables in times of system shocks is not catered for. The variance decomposition and the impulse response is employed to examine how the economic well-being of citizens responds to disturbance from the studied variables. From Table 7, it is clear that HDI is strongly endogenous on itself. This strong endogeneity exhibited by HDI on itself gets reduced as the years run by. Apart from UEMPL-R that has yearly improvements in the long run, showing strong exogeneity on HDI, GDP-GR and INFL- have weak influence on economic well-being. On the whole, UEMPL-R and INFL-R appear to have some form of predictive influence on HDI than GDP-GR.

Table 8: VAR Granger Causality/Block Exogeneity Wald Tests: HDI

Excluded	Chi-sq.	df	Prob.
GDP-GR	0.094197	2	0.9540
INFL-R	2.005617	2	0.0068
UEMPL-R	2.312369	2	0.0147
All	4.846560	6	0.3366

Source: Researchers' Computations (2022)

In Table 8, researchers tried to establish any causal relationship between the dependent variable (HDI) and the independent variables (GDP-GR, INFL-R and UEMPL-R). The null hypothesis is that the independent variables do not granger cause HDI. INFL-R and UEMPL-R have been sighted to granger cause HDI given their respective *p*-values being less than 5 percent, and therefore the null hypothesis is rejected at their instance. However, we refuse to reject the hypothesis in the case of GDP-GR since the Prob value is far more than 5 percent.

CONCLUSION, RECOMMENDATION FOR POLICY, AND IMPLICATION FOR THEORY AND PRACTICE

The study set out to determine how individually and interactively macroeconomic variables used for policy design influence the economic well-being of citizens in Ghana. It is premised that if macroeconomic policy and mode of implementation do not influence economic well-being, then the alternative policy preference will be to allow the free-market economy decide the economic welfare of citizens. The results are a mixed one which could have long-term implications for national policy preference and implementation. Well-tailored macroeconomic policies cognisant of the study findings will benefit citizens as policies that help create jobs in the system will defuse the volatile unemployment situation. Besides, inflation is observed to be a tool for investment creation through a deliberate government policy to create more money. The results obtained from the model as regards GDP-GR favours the free-market system to dictate welfare, as GDP-GR negatively impacts welfare in the long run. This implies that positive growth rates do not necessarily translate into improved economic well-being for citizens. These revelations allow researchers suggest that cautious efforts by governments are central in designing and implementing national policies that deliberately work to suppress inflationary tendencies and to encourage investments that eventually offer job opportunities, keeping existing businesses and ushering new ones, especially in the manufacturing and construction industries. Therefore, appreciating the efforts of central governments in deliberately unleashing policies capable of creating a conducive environment for job opportunities is the ultimate goal. It is the wish of this paper that all-inclusive macro-policy design and implementation be the preserve of national governments. Theoretically, this study is of relevance since macroeconomic indicators are valuable as they touch the generality of the citizenry, thus, both government agencies and ordinary citizens hopefully pay attention to national blueprints. Practically, macroeconomic policies are to make the economy stable through widening the tax net to include a majority of the informal sector players (through digitisation) who will pay taxes to aid the developmental efforts. This, suggestively, is critical for employment generation, wealth creation, and livelihoods enhancements through conscious policies on investments in capital projects.

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