

SUBJECTIVE WELL BEING AND FISCAL POLICY: A CAUSAL ANALYSIS OF ZIMBABWE (1980 TO 2020)

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Abstract

The purpose of the study was to investigate the causal relationship between fiscal policy and subjective well-being for the Zimbabwean economy from 1980 to 2020. The study adopted the Vector Auto Regressive Model to characterise the relationship between subjective well-being and fiscal policy. In addition, the cointegration technique was used to establish the long run relationship between fiscal policy and subjective well-being. The Granger causality test was conducted to ascertain the direction of causality between the variables. The study results show that the variation on subjective well-being from taxation is greater than the variation from government expenditure. In addition, the study findings show that there is a long run relationship between fiscal policy and subjective well-being. The major finding of the study is that fiscal policy granger causes subjective well-being. The study recommended that the Government of Zimbabwe should prioritisation of government expenditure to effectively deliver public goods, revisiting the progressivity of the taxation to have a positive influence of taxes on subjective well-being and construction of Gross National Happiness Index which informs fiscal policy makers on the level of subjective well-being after making policy changes.

Keywords: cointegration, happiness, expenditure, taxation, long run

INTRODUCTION AND BACKGROUND

Fiscal policy is regarded as one of the most significant economic policies pursued by policymakers globally (Barnes & Hicks, 2018). The relevance of fiscal policy is best understood in terms of its fundamental

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tasks that include allocation and redistribution of resources in an economy (Dumičić, 2019). Fiscal policy is described in terms of the amount and structure of government expenditure and the level and composition of taxes (Veselinović *et al.*, 2019). Thus fiscal policy contains two important components which are government expenditure and taxation. Government expenditure is defined as spending on assets and objects used by the government to provide public goods or services (Prasetyo, 2020). The dominant assumption in macroeconomics is that government spending is unproductive and pointless as it does not influence economic outcomes (Daniel & Gao, 2015). Another component of fiscal policy are taxes that refer to the mandatory financial charges or levies imposed on a taxpayer by a government entity to finance public expenditures (Motta & Rossi, 2019). Taxation is one of the major sources of income for government spending, however it may serve other reasons as well, such as reducing poverty and income inequality (Sudarno *et al.*, 2021). As a critical instrument used by the government to achieve set macroeconomic objectives, a fiscal policy has a significant influence on the well-being of the citizens through its redistributive effects (Jouini *et al.*, 2018). The Agenda 2030 places a premium on government interventions and policies which improves the subjective well-being and happiness of the citizens (Ruiz-Mallén & Heras, 2020).

In the past, happiness was mostly researched by philosophers and psychologists, but in recent years, it has also become an important concept in economics (Koch, 2018). Traditionally, economics has considered happiness in terms of subjective well-being (Wong *et al.*, 2020). Happiness uses reported subjective well-being as a proxy for usefulness of a policy from an economic standpoint (Joshianloo, 2017). For the purpose of this research, subjective well-being and happiness are used interchangeably since they are all measures of utility. Subjective well-being is the extent to which a person believes or feels that his or her life is going well (Helliwell & BarringtonLeigh, 2010). Subjective well-being assessments differ from objective well-being indicators such as GDP in that they are based on self-reports of respondents' lives (Layard, 2010). Whether fiscal policy can live up to

its normative promises of improving the well-being of the citizens remains a matter of controversy (Kwon, 2020; Boyce *et al.*, 2018). The promise of any fiscal policy is that the government can correct market failures through effective taxing and spending policies and improve well-being (Musgrave, 1959). On the other hand, Buchanan (1975) posited that fiscal policy is by nature and design geared to maximise the power, authority and re-election of policy makers than improving well-being of the people. Similarly, Brennan and Buchanan (1980) introduced the concept of fiscal illusion, noting that complex tax structures obscure the true costs of government from a taxpayer perspective leading to bloated government, declining efficiency and reduced well-being.

Over the years, there have been debates over the years on whether fiscal policy has an impact on the subjective well-being of the citizens (Altman *et al.*, 2017). Furthermore, there is no agreement on the nature of the relationship between fiscal policy components and subjective well-being (Eklou & Fall, 2020). Despite the lack of consensus among economist, fiscal instruments, public expenditure and taxation, may be one of the government's most significant tools for influencing market-based happiness (Delgado-Rodríguez & De Lucas-Santos, 2021). Few economists have researched the relationship between fiscal policy and happiness or subjective well-being (Rizkallah, 2021).

The study aims to determine the causal relationship between fiscal policy and happiness or subjective well-being in the Zimbabwean economy. Zimbabwe has implemented various economic interventionist programmes throughout the years. After Zimbabwe's independence in 1980, the new government invested heavily on infrastructure development, including roads, schools, and hospitals (Mukwepa, 2019). This was intended to remedy the absence of these basic amenities for the majority of Zimbabweans, since the bulk of these services had previously been provided to the white minority. In 1984, total expenditures reached 42% of total revenue (Dlamini & Schutte, 2020) and as a consequence of pressure from the Bretton Woods

institutions IMF and World Bank, the Zimbabwean government initiated the Economic Structural Adjustment Program (ESAP) in 1991 (Zhou & Zvoushe, 2017). Under ESAP, several state firms were privatised and trade was liberalised, with the aim of bringing the budget deficit and inflation rate down to single digit and the budget deficit was projected to reach 5% of GDP by 1994/1995 (Hadebe, 2022). The period between 1996 and 2008 was marked by economic challenges which resulted in dips in taxation as expenditure increased (Nyabereka, 2017). Between the period 2009 and 2018 under the multi-currency system, the fiscal imbalances began to stabilise although they began to increase towards 2018 (Mbanyele, 2019).

In 2018, the Zimbabwean economy was marked by persistent fiscal imbalances, vulnerabilities in the banking sector, and cash shortages. Since 2013, the government of Zimbabwe has had fiscal deficits as high as 12.9% of GDP in 2017, up from 1.3% in 2013 (Kavila, 2022). Through a combination of fiscal reduction and broadening the revenue base, the Zimbabwean economy was able to convert these chronic deficits into surpluses in 2019 and 2020, and lay the groundwork for fiscal stability (Kavila, 2022). Despite the fiscal stability that has been achieved over the years, similar to other African countries, there are low levels of happiness. Zimbabwe scored 144 out of 146 nations on the World Happiness Report in terms of happiness (AllAfrica Global, 2022). The data from Country Economy (2022) shows that happiness index for Zimbabwe has declined from 4.827 in 2013 to 2.995 in 2022. A downward trend has been recorded in Zimbabwe, with an average happiness score of 3.88, with a minimum score of 3 recorded in 2021 and the highest score of 4.83 witnessed in 2013 (Global Economy, 2022). The main puzzle is that, in the presence of fiscal stability happiness has declined. The study examined the causal relationship between fiscal policy and happiness and the purpose of the study is given as question as follows:

What is the causal relationship between subjective well-being and fiscal policy?

LITERATURE REVIEW

SUBJECTIVE WELL-BEING

Subjective well-being refers to the degree to which an individual thinks or feels that his or her life is going smoothly (Clapham *et al.*, 2018). Subjective well-being researchers are interested in self-reported assessments of the quality of a person's life. Subjective well-being is an aspect or particular form of well-being that reflects how individuals assess their own lives and has been described by economists as a measure of utility. Historically, economists have used objective indicators, most notably GDP, to evaluate the prosperity of a nation (Clapham *et al.*, 2018). The previous idea that a country's wealth is the greatest measure of its quality of life was refuted in 1974 by Richard Easterlin (Clark, 2016). In what is now known as the Easterlin paradox, the study revealed that while there is a positive correlation between national income and happiness, total levels of happiness do not improve even when national wealth grows through time, indicating that other variables must be at play (David & Ayers, 2013). Since then, more emphasis and study in economics have been placed on the characteristics that best predict country-level subjective well-being to better precisely evaluate quality of life within and across nations and to guide policymakers' decisions (Stelzner, 2022). However, the Easterlin paradox also led to the notion that long run relationships between subjective well-being and other economic variables are non-existent (Slag *et al.*, 2019). Modern studies need to test the applicability of the Easterlin paradox to establish whether a relationship exists between subjective well-being and economic variables.

THEORETICAL FRAMEWORK

Traditionally, academic studies on subjective well-being and happiness have been grounded in psychological and sociological theories (Helliwell & Barrington-Leigh, 2010). One of the widely applied psychological theory of subjective well-being is the livability theory. According to the livability theory, a person's happiness relies on how well their material and nonmaterial requirements are met (Mouratidis, 2020). Livability theory is based on the essential assumption that

hedonic experience influences the degree to which we enjoy our lives (happiness) (Băltătescu, 2021). Therefore, based on the livability theory, subjective well-being relies on avoidance of pain. Another assumption is that, the satisfaction of needs is contingent upon both external living situations and the number of resources to satisfy those needs (Majeed & Mumtaz, 2017). Consequently, poor living conditions and unavailability of resources will diminish happiness, especially when their demands surpass human capacities (Majeed & Mumtaz, 2017). However, the livability theory fails to take into account hedonic adaptation, a concept explored by Brickman and Campbell (1971) that highlights that subjective well-being returns to its set-point despite a temporary spike (improved livability). In terms of the fiscal policy, it implies that subjective well-being is increased if the government expenditure ensures that the basic needs of an individual such as housing, food, health and education are met or the taxes imposed by the government leaves the individual with enough resources to meet basic needs.

Conversely, the comparison theory highlights that happiness is the outcome of comparing current life to the past and to the experiences of others (Liao, 2021). People establish their degrees of happiness by continually comparing and evaluating their experiences in relation to those of others (Chae, 2018). The concept of hedonism underpins comparison theory, where people calculate their life happiness by comparing their suffering to their joys (Stets & Trettevik, 2016). Happiness, according to the comparison theory is characterised as a construct that reflects an individual's subjective reality in an objective universe and is mostly controlled by comparison thought (Stavrova, 2019). Comparison theory asserts that happiness has two components: intellect and emotion. People's evaluations of their lives are composed in part by mood or emotions (affect) and in part by cognitive processes, such as comparison assessment (cognition) (Stets & Trettevik, 2016). The comparison theory further posits that happiness increases temporarily and people return to their baseline happiness level after the adaptation process is complete (Chae, 2018).

If comparison theory is accurate, then government efforts to enhance subjective are futile, since residents will just adapt to the new level and be no happier. In contrast, if the livability argument is accurate, fiscal policy components have a significant impact on subjective well-being. However, other scholars argue that subjective well-being has economic theory foundations. According to Dao (2017), public choice theory and the Keynesian perspectives elucidate the role of government in promoting happiness or subjective well-being. According to the public choice theory, politicians, government employees, bureaucrats, and other stakeholders may prioritise their own interests when formulating and executing policies that result in unneeded interventions, increased government expenditure, and taxation which leads to poor welfare (Dao, 2017). The Keynesian school stresses the role of the government in stabilising the economy and stimulating aggregate demand which enhances well-being (Rizkallah, 2021). The role of the government based on Keynesian school is to enhance subjective well-being. The review of the theoretical framework reveals that, based on both psychological and economic theories, fiscal policy can have divergent impact on and relationship with subjective well-being.

EMPIRICAL LINK BETWEEN FISCAL POLICY AND SUBJECTIVE WELL-BEING

Empirical studies have been conducted on the relationship between fiscal policy components and subjective well-being/happiness. Kwon (2021) examined the effect of defence spending on subjective well-being based on panel data collected from developed and developing countries. The results of the Ordinary Least Squares Method and Ordered Probit models showed that defence spending negatively influences well-being up. Rikzallah (2021) evaluated how fiscal policy (taxes and expenditure) is related to subjective well-being applying the pooled ordinary least squares, random effects and fixed effects models which were based on the Barro model of endogeneity. The study results showed that fiscal policy does not have an influence on subjective well-being. Kwon (2020) analysed the relationship between fiscal policy components, transparency and individual well-being using panel data. The findings show that different types of expenditures and taxes have

different impact on well-being. Mazzanti *et al.* (2020) based on panel regression found a positive relationship between government expenditure and well-being whilst no relationship was established between taxes and subjective well-being. Oishi *et al.* (2012) used cross-sectional data and panel regression from 54 showed and demonstrated that progressive taxes are positively associated with the subjective well-being of nations, and that people who reside in countries with more progressive taxes have a higher quality of life than those who reside in countries with less progressive taxation. Bjørnskov *et al.* (2007) employed panel regression for developing countries and the results highlighted that national averages of happiness decrease as government expenditures and taxation rise. Veenhoven (2000) directly compared livability (measured by Human Development Index (HDI)) with life satisfaction (SWB) in welfare states and found that while welfare states (active fiscal policy) score high on HDI.

Based on the analysis of the review literature, the majority of the studies have examined the relationship between fiscal policy and subjective well-being have treated subjective well-being as a dependent variable. However, Diener *et al.* (2018) indicated that subjective well-being has an impact on the economic variables. Therefore, another gap lies on the methodology. Generally, research on the relationship between fiscal policy and SWB is inspired by the intuitive lay hypothesis that higher levels of government spending and lower tax rates result in greater levels of happiness. In other words, the presumed path of causality runs from fiscal policy to subjective well-being. The Granger Causality test and Vector autoregressive models can be applied to show whether subjective well-being has an effect on government expenditure and taxation in the Zimbabwean economy since both variables can be regarded as exogenous.

RESEARCH METHODOLOGY

MODEL SPECIFICATION

The study of subjective well-being allows for studies to utilise various econometric methodologies. VAR models have been the most prominent

method for analysing the consequences of government policy and several stylized findings have been uncovered (Roy & Sharma, 2021). VAR is a stochastic process model used to represent the linear interdependencies between several time series (Davis *et al.*, 2016). In applied economics, endogeneity between dependent and independent variables presents challenges hence VAR circumvents the challenge (Davis *et al.*, 2016). Diener *et al.* (2018) indicated that subjective well-being may affect economic variables indicating the likelihood of endogeneity between the fiscal policy and subjective well-being. Regarding VAR estimation, there are two choices where a large number of variables that may have significant economic interactions (but with fewer degrees of freedom) are included in the study or utilisation of fewer but more significant variables enabling more efficient estimation through having more degrees of freedom (Tiwari, 2015). A three-variable VAR model was applied to estimate and analyse the relationship between subjective well-being and fiscal policy to allow for efficient estimation. The study adopts the VAR model as used by Tiwari (2015) as follows:

$$\begin{aligned} Tax_t &= k_1 - a_{12} EX_t - a_{13} LS_t + \beta_{11} Tax_{t-1} + \beta_{12} EX_{t-1} + \beta_{13} SB_{t-1} + \varepsilon_t^{Tax} \\ EX_t &= k_2 - a_{21} Tax_t - a_{23} SB_t + \beta_{21} Tax_{t-1} + \beta_{22} EX_{t-1} + \beta_{23} SB_{t-1} + \varepsilon_t^{EX} \\ SB_t &= k_3 - a_{31} Tax_t - a_{32} EX_t + \beta_{31} Tax + \beta_{32} EX_{t-1} + \beta_{33} SB_{t-1} + \varepsilon_t^{SB} \end{aligned}$$

Where Tax represents tax revenue as percentage of GDP, EX represents government expenditure as percentage of GDP and SB represents subjective well-being as proxied by Human Development Index. On a practical level, the HDI is perhaps the most prominent measure of subjective well-being, used frequently in policy and research and encouraging a profusion of other measures using similar aggregation approaches (Yang, 2018). The justification on the use of HDI as a proxy for subjective well-being lies on the premise that capabilities as measured by HDI (health, education and income) are the fundamental

building blocks for attaining a satisfying life and without them, sustained subjective well-being is nearly impossible to achieve.

The VAR model estimates the impulse response function and the variance decomposition which are basis of interpretation on the impact of fiscal policy on subjective well-being. The study also applied the Granger Causality and cointegration techniques to establish the nature of the relationship between fiscal policy and subjective well-being. Cointegration shows that variables move together in the long run despite the possibility of short-term divergence (Gujarati, 2008). Common cointegration tests include the Pedroni test, the Johansen test, and the Auto Regressive Distributed Lag (ARDL) test (Papas & Stoian, 2016). ARDL and Johansen cointegration approaches use distinct estimate techniques (Gujarati, 2008). The Johansen cointegration approach utilises maximum likelihood, while the ARDL cointegration procedure uses the method of ordinary least squares (Nkoro & Uko, 2016). The Johansen cointegration test is based on eigen values and trace statistics and is considered to be closer to theory than other techniques (Olorogun, 2021). The study specifies the Johansen cointegration test as used by Olorogun (2021) as follows:

$$Y_t = \mu + A_1 Y_{t-1} \dots + A_p Y_{t-p} + \varepsilon_t$$

Where $t = 1, 2, \dots, T$ $\varepsilon_t \sim \text{idd}(0, \sigma^2)$

The lag length is reflected by p as determined by the Akaike Information Criterion. The cointegration condition is that $A < 1$ so that the model is dynamically stable. Therefore, the long run relations between the variables exist when the condition is satisfied. However, Gujarati (2008) noted that correlation does not imply causality. Cointegration shows the presence of a long run relationship between the variables but it does not show which variables causes the other and therefore the Granger causality technique should be performed. Subjective well-being is considered as a variable that affects economic factors (Diener *et al.*, 2018). In line with the assertion by Diener *et al.* (2018)) the study adopts the Granger Causality method to ascertain the direction of causality between subjective well-being and fiscal policy.

The study utilised the Granger causality method as specified by Gujarati (2008) as follows:

$$SWB_t = \sigma \Sigma SWB_{t-1} + \theta Tax_{t-1} + \beta Exp_{t-1} + \varepsilon_t$$

$$Tax_t = \sigma \Sigma Tax_{t-1} + \theta SWB_{t-1} + \beta Exp_{t-1} + \varepsilon_t$$

$$Exp_t = \sigma \Sigma Exp_{t-1} + \theta Tax_{t-1} + \beta SWB_{t-1} + \varepsilon_t$$

The Granger causality test identifies three possible kinds of correlations between variables: independent, bi-directional, and unidirectional (Troster, 2018). Variables are deemed independent when the Granger Causality test determines that no model variable has an influence on the other variables (Gujarati, 2004). When variables have an effect on one another, a bidirectional connection is developed (Gujarati, 2004). A unidirectional connection exists when one variable has an influence on another variable, but the second variable has no effect on the first variable (Troster, 2018).

DIAGNOSTIC TESTS

To get precise estimates, it is required to undertake diagnostic tests that identify the existence of econometric issues (Oktayer & Oktayer, 2013). In executing the Granger Causality test, the unit root test normality test, multi-collinearity and optimum lag length determination are carried out. The unit root test is used to determine whether or not a variable is stationary (Creswell, 2009). The existence of unit roots impacts the precision of the coefficients and the reliability of the study's findings (Oktayer & Oktayer, 2013). The ADF Fisher unit root test is used to assess if the variables contain unit roots. The lag length has a significant impact on the Granger causality test. Akaike Information Criterion (AIC) and the Schwarz (Bayesian) Information Criterion (SIC) are often used to identify the ideal lag duration in a model (Dzingirai & Tambudzai, 2014). The SIC is appropriate for small samples with less than 30 observations, but the AIC is used for large samples with more than 30 observations (Dzingirai & Tambudzai, 2014). Due to its large sample size properties, the AIC is regarded as an impartial estimator for determining the ideal lag duration (Portet, 2020). The AIC is used to determine the appropriate lag time in this research.

DATA

The objective of every study is to collect in-depth data that enhances the quality and credibility of the study. The data collected for the study should be sourced from credible institutions. The study utilised time series collected from the World Bank statistics and the United Nations.

STUDY RESULTS AND DICUSSION

This section presents and discusses the findings of the study based on the research techniques presented in the previous section. Descriptive statistics are essential because they show the characteristics of the study's variables. The descriptive statistics are presented in Table 1 below.

Table 1: Descriptive statistics

	TAX	SB	EX
Mean	18.8034	0.4775	16.80201
Median	18.5213	0.4677	17.9235
Maximum	35.4132	0.5714	27.4870
Minimum	2.9456	0.4116	2.04712
Std. Dev.	6.4606	0.0492	5.46225
Skewness	-0.22501	0.4954	-1.0239
Kurtosis	4.11298	2.1125	4.00717

According to Gujarati (2008), the normal value for skewness is 0 and values around the normal value are seen as good. Table 1 shows that fiscal policy components taxation and government expenditure are negatively skewed whilst subjective well-being is positive skewed. Leptokurtic variables are those whose kurtosis value is higher than 3 whilst playtkurtic variables are those whose kurtosis value is higher than 3 (Gujarati, 2004). The descriptive statistics in Table 1 shows that taxation and government expenditure a lyportokurtic whilst subjective well-being is playtkurtic. Leptokurtic may signify that variables may have unit roots and are non-stationary (Gujarati, 2008). Table 2 below contains the unit root test results

Table 2: ADF Unit root test results (Akaike Information Criterion (Lag 2: 5.539508*))

Variable	ADF Fisher statistic	Probability Value	Integration Order
Government expenditure (EX)	-6.722708	0.0000	I(1)
Subjective well-being (SB)	-2.478284	0.0146	I(1)
Taxation (Tax)	-6.400928	0.000	I(1)

Table 2 shows that all the variables contain a unit root and are integrated of order 1. The presence of unit roots precludes the use of the usual least squares approach (Magazzino, 2012). The cointegration and Granger Causality approaches are applicable. The Granger Causality test is heavily dependent on the on the lag length. The Akaike Information Criterion shows that the optimal lag length for the model is 2. The correlation matrix showed the model does not suffer from multi-collinearity hence the residuals follow a normal distribution. The impulse response function was performed and Table 3 shows the Impulse response function for subjective well-being.

Table 3: Impulse response functions

Period	1	2	3	4	5	6	7	8	9	10
TAX	-0.0008	-0.001	-0.0047	-0.0095	-0.0133	-0.0158	-0.0171	-0.0176	-0.0176	-0.0174
SB	0.00953	0.01325	0.01448	0.01465	0.01443	0.01406	0.01363	0.01317	0.01272	0.01228
EX	0.0000	0.0002	-0.0015	-0.0034	-0.0049	-0.0060	-0.0066	-0.0069	-0.0070	-0.0069

Table 3 shows that a 1% change in taxation results in a negative response to the subjective well-being by 0.008% and 0.0174% in periods 1 and 10, respectively. Therefore, it shows that over time the subjective well-being response to taxation increases negatively. In addition the response of subjective well-being to government expenditure changes from positive to negative over time. The study findings are aligned to the assertion by Bjørnskov *et al.* (2007) which demonstrated that national averages of happiness decrease as government expenditures and taxation rise. The study findings support the comparison theory which shows that changes in conditions are the determinants of subjective and the public choice theory which indicates

that government intervention may have negative impact on well-being. Different levels of taxation and government expenditure have a different impact on happiness and thus different levels of subjective well-being are recorded (Kwon, 2021). The variations in subjective well-being has important policy implication hence Table 4 below shows the variance decomposition for subjective well-being

Table 4: Variance decomposition

Period	1	2	3	4	5	6	7	8	9	10
S.E.	0.00957	0.01638	0.02241	0.0286	0.03504	0.04136	0.04723	0.05254	0.05727	0.06148
TAX	0.77556	0.62375	4.75718	13.8625	23.7154	31.6121	37.2992	41.3191	44.2041	46.3253
SB	99.2244	99.3585	94.7968	84.4658	73.2138	64.1114	57.4778	52.7375	49.3087	46.7754
EX	0.000	0.01778	0.44603	1.67175	3.07088	4.27652	5.22298	5.9434	6.4872	6.89929

Table 4 shows that not more than 46.33% and 6.9% of the variations in subjective well-being emanate from taxation and government expenditure respectively. The variation in subjective well-being emanating from both taxation and government expenditure increases over time. However, taxation results in more variation in subjective well-being compared to government expenditure. This is in line with the finding by Rikzallah (2021) which showed that taxation has more impact on subjective well-being compared to government expenditure. The study findings may be is premised on the assumption that generally people do not want lose and place a premium on personal loses than gains in line with the hedonic experience assumed in the livability theory (Bălțătescu, 2021). Taxes show the transfer of income from and disutility to economic agents to government which may represent loss of income to other stakeholders hence explaining the prevalence of tax evasion and tax avoidance (Lawsky, 2010). Government expenditure on the other side represents the availing of resources which a gain hence not as valued as loss incurred through taxes (Lawsky, 2010). Variance decomposition does not show the long run link hence the cointegration is used to reflect the long run relationship between variables. Table 5 below shows the cointegration test results for the study.

Table 5: Cointegration test results

No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.315356	25.36296	24.27596	0.0364
At most 1	0.235032	10.96645	12.3209	0.0834
At most 2	0.020458	0.785465	4.129906	0.4323

Given the findings provided, the null hypothesis of no cointegrating equation is rejected at the 5% level. Hence, the study findings in Table 5 show that a long-run link exist among the three variables. From a policy level, it shows that the fiscal decisions have a long run impact on subjective well-being. This contradicts the notion by Slag *et al.* (2019) that a long run relationship between subjective well-being and economic variables is non-existent. The cointegration results show that fiscal policy should take into account subjective well-being as there is a long run relationship. However, studies need to be extended beyond cointegration to Granger causality which shows the direction of influence between variables.

Table 6: Granger causality test results

Variable	Direction of causality	Lags	F-Statistic	Probability
Government expenditure	EX to SB	2	4.00268	0.0275
	SB to EX	2	0.151	0.8604
Taxation	SB to Tax	2	0.09022	0.914
	Tax to SB	2	4.45264	0.0192

The study results from Table 6 show that there is uni-directional relationship between fiscal policy components and subjective well-being. The study findings show that both taxation and government expenditure granger causes subjective well-being. Thus the direction of causality flows from fiscal policy to subjective well-being. The study finding reject the notion by Diener *et al.* (2018) that highlights that subjective well-being is a causal of economic outcomes. The findings support the earlier empirical studies which viewed subjective well-being as dependent on other economic variables. In addition, the study

findings support the classical school theory which posits that government interventions enhance well-being of the society. Therefore, the study findings imply that fiscal interventions should be directed towards increasing the subjective well-being of the citizens.

CONCLUSION AND RECOMMENDATIONS

Although fiscal policy plays a significant role in promoting economic well-being, the link between the two has gotten little attention. The emphasis of the literature is economic development, and the objective of every country's policy is to promote citizen happiness. The study investigated the causal relationship between subjective well-being and fiscal policy for the Zimbabwean economy. The study followed the VAR model where all the variables were assumed to be endogenous. The VAR model was adopted to circumvent the endogeneity challenge as the components of fiscal policy do not operate in isolation but rather in concert with one another, where public expenditures are naturally funded by taxation and taxation is subject to the government's desired level of spending. One of the study limitations was the unavailability of subjective well-being data. The challenge was circumvented through the use of HDI although some scholars debate on its applicability as a measure of subjective well-being.

The major study finding is that there is uni-directional relationship between subjective well-being and fiscal policy. The study findings show that taxation and government expenditure granger causes subjective well-being confirming the applicability of the liveability theory. In addition, the cointegration results show the presence of the long run relationship between fiscal policy and subjective well-being. The impulse response function showed that the response of subjective well-being to government changes from positive to negative over time in line with the comparison theory whilst the response of subjective well-being is negative. The variance decomposition shows the variation in subjective well-being emanating from taxation is greater than the variations from government expenditure in line with the hedonic experience assumption of the liveability theory.

As shown, subjective well-being is influenced by fiscal policy and therefore the government should concentrate on identifying the fiscal policy elements that improve subjective well-being. Based on the study finding, the study recommends prioritisation of government expenditure to effectively deliver public goods and increase subjective well-being. The study also recommends revisiting the progressivity of the taxation to have a positive influence of taxes on subjective well-being. Using a variety of measurements and comparing their findings to understand the drivers of happiness, more effort should be devoted to researching economic happiness. The study recommends the construction of Gross National Happiness Index which informs fiscal policy makers on the level of subjective well-being after policy changes have been made.

Although the study was thorough, it did not cover all the areas on the relationship between subjective well-being and fiscal policy hence makes suggestions for future studies. The study suggest a comparative study to be conducted where two or more economies can be studied and results compared to comprehensively make conclusions and inferences about the relationship between the variables. In addition, the study suggests disaggregating of taxes and government expenditure to analyse the effect of each tax and expenditure component on subjective well-being. The study concludes that the government should effectively utilise fiscal policy to improve subjective well-being which is the first and legitimate goal of public policy.

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