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TAX SHIFTING A NEW APPROACH TO ENVIRONMENTAL TAX REFORM

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ABSTRACT

It is of great importance for the policymakers to make useful reforms on environmental policies in such a way that it will discourage environmental degradation, and solid waste disposal. This is because tax generally decreases consumption of the items that are taxed heavily. A commonsensible strategy, and it is welfare improving to tax undesirable activities like pollution more and desirable activities less in more efficiently and convenience way. Musgrave's theory of fiscal incidence and its measurement has been adopted. The study applies a quantitative method approach where quantitative data was collected from individual's tax workers by means of questionnaire distribution and the data was analyzed using Structural Equation Model (SEM). It has been found that tax shifting can produce a noticeable change in the level of pollutant with minimum cost. This is because taxing of pollution by putting a price on what was formally free will discourages or minimizes the level pollution. The study recommends that developing country like Nigeria should be encouraged to implement tax shifting in their policy on industries that their activities are not environmentally friendly as it is an effective mechanism to reduce environmental pollution.

Keywords: Environment, Pollution, shifting, Tax, Nigeria

1.0 INTRODUCTION

Environmental tax reforms entail shifting the tax burden from labour towards environmentally harmful goods and activities. Thus, the reform is aim at achieving a gain simultaneously increasing employment by decreasing the indirect cost of labour, and improving the state of the environment by making the activities which are harmful for the environment more costly. In a real-life scenario, no one likes taxes, particularly in developing countries like Nigeria. People and corporate organizations actually do not like to pay tax and consequently, they do not like to think about them because they

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wonder where the taxes are really going and what benefits they are driving from paying taxes. They always worry about taxes going up; hence taxes are considered a dirty word by the taxpayers (Gilbert, 1998; John, 2001), as environmental problem persists. The government has to come up with market base regulatory policies toward improving the quality of the environment, as the environmental quality is always deteriorating. The current taxes are not too good to be true. It sends signals to the businesses and consumers that adversely degrade the natural resource harm public health and hurt the economy.

Now days, there is a widespread call by researchers and activists for the policy makers to reform the tax system in such a way that it will promote environmental protection and discourage environmental degradation to support environmental economic goals, while still generating the needed revenue necessary for the government so as to provide basic services to the people.

Environmental tax shifting is essentially about using a new powerful technique of taxation that send new price signals, change behavior and guide out producing and consuming activities so that sustainable future of the present and next generation can be guaranteed. Tax shifting, in an environmental context, involves income taxes while raising taxes on environmentally destructive activities (World Watch Institute, 1997). Tax shifting is the passage of the tax burden from one economic agent to another (Huntler, 2009).

Furthermore, meaningful tax shift can create jobs and boost living standard while protecting the environment (Walls & Hanson, 1999). Infact, governments can strengthen the economy, clean its air, land, water and reduce the tax burden on the working class (Michael & George, 2000). When expressed like this, it is clear that tax shifting is not only a way to reduce the negative competitiveness and distributional impacts of some environmental taxes but also a way to improve the economy while protecting the environment.(TaoZeng, 2014),considers that the three-fold claim that is sometimes made: the tax is borne by the shareholder, is passed on to the workers in the form of lower wages (and to the suppliers' of capital in the form of lower interest and rents), and is shifted to the consumer in the form of higher prices.

However, several studies, (Schob, 2005; Ditya, 2016) have argue that an environmental tax may have a multitude of possible effects which are sensitive to underline institutional framework. This approach is likely to make polluting costlier and investing in alternative technologies, practices, and resources more attractive. Nevertheless, keeping in mind the economic effects, the distributional and competitive impacts couple with the mitigating actions, the tax needs to be carefully designed if it is to effectively support environmental policies. One attractive approach

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to tax shift is revenue neutrality reduction in some tax rates offsetting the new or increases taxes on pollution and other environmentally harmful activities. Environmental Tax Shifting is one idea. It combines two approaches, a legislative and a market base approach. It acknowledges that both public policy and the market base approach (i.e., prices) can impact behavior both at an individual and industry level. It just may be a good idea we are seeking. According to Grainger, (2009), he asserts that large tax breaks to industry sectors whose products harm the environment and public health; there is little incentive for them to develop new and cleaner material, practices technologies and products. Moreover, (Michael, 2000) asserts that although it is well established and documented in the feel of environmental economics that taxes have a distortionary and negative effect on the economy, not all taxes are equally harmful. He is of the view that, the amount of taxes collected from the business sector will be returned to the business sector (although not necessarily to the same business) and all taxes paid by consumers will be returned to consumers (although not necessarily the same consumers.

The idea behind the proponent of environmental tax shift is that, they believe the revenue generated by these taxes is not added; instead, they were shifted to reduce other taxes for example income tax or even offset the environmental tax themselves. Furthermore, environmental tax schemes involve a shift from taxing good things (for example income and profits) to taxing of bad things pollutions, waste resources, toxic by industries in order to encourage more environmentally sound behaviour. However, scholars like (Bauman, (2008) and *Milne, 1996*). Assert that in general economic principles "when you tax something you invariably get less of it.

A tax shift from labour to things like pollution is a "winning strategy" one of the biggest tax policy challenges in Europe is that governments always rely too much on labour taxes. But the implication of overdependence labour taxes can also be another disadvantage when government and private sector make it too expensive to employ people. Passing some of these taxes to other things such as pollution could virtually help to accelerate employment and economic growth. Environmental tax shifting is defined by increasing taxes on environmentally damages activities while simultaneously reducing them on beneficial economic activities.

Taxation of natural resources increases their cost and thereby discourages conservation. Charging the pollution putting the price on what was formerly free and therefore discourages polluting (Schwartz, 1999). Therefore, to conserve nature, taxation of resources, land, and pollution labour and capital should be reduced or shifted.

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The policymakers has failed to monitor the extent of the environmental pollution and degradation which is affecting the ecosystem and enforce existing environmental laws that require quick response. Tax shifting can be a crucial market based approach that can be used as synergy effort to move in this direction.

The objective of the research is to assess different tax policy and to support the environmental tax reform in Nigeria by reforming the tax policy in line with global best practices

2.0 LITERATURE REVIEW

Tax reform as noted by Azubike, 2009, Udezo and Ven, (2021) is an ongoing process which policymakers and tax administrators in consonance with the economic and socio political realities continue to adopt so as to enable restructure the tax system for the effectiveness and efficiency revenue generation in the country. It has been supported by Gazzani (2021) that environmental tax shifting reform that aims to reduce environmental pollutions and emissions and avoid a regressive impact on low-income household holder need to applied carrot and stick approach.

The main objectives behind environmental tax shifting are to stop taxing desirable things we do want. (Like our income and savings) and shift towards taxing things that people collectively do not want (like environmental waste and pollution) Gilbert, (1998). The current tax system encourages the depletion of natural resources and the unsustainable degradation of the environment. While at the same time discouraging job creation, Ideally, a shift towards taxing unwanted effects on the desiredone without increasing the total tax burden will use a market mechanism, to influence and reward more sustainable behaviour without more government regulations.

A good example of tax is shifting is taxes on cigarettes. Which is formally, negative externalities from smoking emerged. Smokers cost society more with their health costs than was paid in taxes derived from the smoking. A tax shift, in the form of per-packet tax, is designed so that smokers pay a fair share of the negative externalities their choices have on society (Hunter, 2009). The passing of the tax burden from one economic agent to another. For example, the burden of sales tax that is formally levied on a firm may be passed to a consumer in the form of higher price. Generally, the tax burden is shared between economic agents with the prices allocation determined by the elasticity of demand and supply. Musgrave as cited in William,(2015) assert that tax shifting concerns the extent to which the statutory or impact distribution of tax burden differ from the actual distribution.

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The theoretical perspective of this study is grounded in fiscal incidence and its measurement advocated by Musgrave's Approach: Musgrave (1989) popularized the new concept of incidence. He points out that incidence takes into account the distributional consequence of budget policy changes. That is the changes in taxation policy and public expenditure. He pointed out that whenever a Budget policy is changed it may result in two or three effects. Firstly it may affect the distributional income between different sections of the communities. Secondly, it may leads to changes in the transfer of resources from private to public use, and thirdly it may lead to a change in output. Therefore, resource transfer in this aspect implies that when a tax is imposed on the people, the resource is transferred to the public sector from the private sector**,** which is referred to as a tax shift. Whereas, output effect implies that imposition of the tax may lead to a change in factor output and hence in total output, by so doing it may induce the worker to work less or to work more leading to change in the rate of savings and investment.

The main reason for government intervention to mitigate pollution problems is well established in the work of (Baumul & Oates 1979, 1988). They asserted that pollution is an example of negatives external effect; it imposes harmful effects and costs on people other than the polluters. The free market offers the polluters no inducement to reduce the damage since the costs are largely paid by others. The market if left to itself, it will be the most effective mechanism for keeping pollution at reasonable levels. Optimal control of pollution would occur if the marginal costs, including damages from pollution, were low enough to be balanced by the marginal benefits from the activity.

The argument for environmental taxes is that, if a product or activity is made more expensive, people will respectively buy or do less of it. If the activity is associated with excessive environmental damage, this will reduce the environmental damage. It is obviously desirable to evaluate the extent to which this argument holds up in practice, the extent to which environmental taxes really do lead to environmental improvement. Evaluations of environmental taxes following their implementation are desirable not only to see how effective they have been in environmental terms but also to learn lessons about how best to introduce them and to communicate their impact and value to policy-makers Environmental European Agency (EEA 2009).

Coarse (1960, as cited in Boettke, 2012), argued that there is no efficient reason for the government to be involved except to help enforced property rights. Coase's proposition is that if those affected by pollution hold the rights to an unpolluted environment polluter will" bribe" them to allow some level of pollution members state for the organization of economic cooperation and development (OECD) and many

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other countries have, in principles give property right to victims through the "polluter pays principles" therefore, government regulations are necessary to force the polluters to internalize the external cost of pollution damage.

More so, if the free market is so efficient, why, as it affects the environment, is the overall economy so inefficient? The answer is very straightforward: markets are superb at setting prices, but at the same time incapable of recognizing costs. Presumably, it is this perverse market behaviour that prompted some European countries to alter their tax administration policy. For example, countries like Finland, Germany, Sweden, and Denmark. Implement new taxes and revised the existing environmental taxes to shift the revenue they raised from polluters to reduce income and capital taxes. The successes of these schemes prove that tax shifting can work. For example, Germany shifted the tax from labour to energy, thereby, lowering fuel use by five percent. Finland carbon tax reducesemission by seven percent in eight years, whereas, Sweden raised the tax on carbon and sulfur emission, thereby cutting tax on personal income and shifting two percent of the country total tax revenue (Bauman, 2008). Furthermore, because many governments in developed and developing countries fail to understand tax shifting, that is why they often fail short of implementation.

The key to acceptance to tax shift policy toward environmental improvement seems to be the degree of an awareness campaign of business and the public of both the concept of revenue-neutral approach and the environmental problems which seek to address. By weighing the benefit of the action taken and the dangers of inaction need to be laid out clearly by the policy maker and communicate effectively. Many countries around the world are now implementing environmental taxes as a means of revenue-neutral tax shifts, using the money generated from environmental taxes to reduce the conventional taxes income tax in particular. An environmental tax is a duty that countries use political power to collect from the polluters for the purpose of environmental protection.

The public and private sector are skeptical about the environmental tax shifting because they fear the unknown, for example, most of the government policies have not shown the readiness to use the tax system as a primary tool to support certain environmental policy objectives when it is coupled with a reduction in taxation. Other challenges include concern about its effectiveness to modify environmental behaviour, combine with the perception that any environmental taxation would interfere with international competitiveness. Because the OECD investigation revealed that a major obstacle to the introduction of environmentally related taxes is the fear of reduced international competitiveness (OECD, 2010). However, the same

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study found that, at present, environmental taxes have not caused a significant reduction in international competitiveness, mainly due to the fact that the country applying this taxes have provided for a total or partial exemption for energy-intensive industries for reasons left to them. In other words, the taxes are levied almost exclusively on households and the transport sector. Providing such exemptions significantly reduces the effectiveness of these taxes and government who wish to use these taxes to effectively support environmental policies will have to remove this exemption. But the question then becomes: what can be done to ensure international competitiveness is not affected without providing these exemptions?

Pre-announcing the introduction of environmental tax and gradually phasing out the exemptions will ease the implementation and make the effects thereof, less serious. The government could consider using lower tax rates for the more internationally exposed sectors to reduce the impact on the country competitiveness (OECD, 2010). Further, besides the international competitiveness effects, the government also needs to look at the domestic impact of the policy. One of the biggest considerations, to be considered especially for the Nigerian government, would be the income distribution effects of these environmental taxes. Furthermore, if the tax rate is too high, it will be shifted to the final consumer and if is too low, it may be absorbed by the companies. According to (European Commission, 2016). Environmental related taxes are among the taxes that are "least detrimental to growth". Because the administrative cost and transaction cost of the environmental tax is lower than other taxes particularly income taxes and their efficiency loss are far smaller than labour taxes.

In most European Union countries on average, more than fifty percent of the government budget is based on income tax, labor tax, and payroll tax. In the United State of America, this percentage is even higher. Only a very small amount of tax is collected on pollution and on natural resources depletion including Minerals, water, and Metals (Antonio, 2015). To make matters even worse the situation of pollution industries and products are even subsidized across the Globe. It has been noted by the (International Monetary Fund, 2012) that the global environmental harmful subsidies are alarming. Tax break and subsidies by their host countries are about $1.9 Trillion per annum. Which in short show that polluter does not even pay. Rudie and Gerhard (2012) in their research on tax design to reduce passenger's vehicles Co_2 emission in South Africa in place of a direct tax on all passenger's old vehicles were the first capture in the tax net which proves success (SARS, 2010). Whereas, in Portuguese introduction of corporate tax reform which was implemented in 2014. (Antonio, 2015) this reform includes tax rate reduction to attract international trends in corporate taxation.

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A growing number of businesses disclosing environmental information in their annual financial reporting in practice, However, Pulver; 2007; Garba; 2017 argued that companies are been accused of ‘’green washing’’ in their marketing campaigns in respect to environmental responsibility. What companies are saying about environmental friendliness in practice appears not to reflect what they are actually doing. It is common to find the companies’ environmental policy to state that the companies are committed to environmental management by recognizing. Avoiding and or minimizing environmental impacts on society. However, (Jay, 2016) assert that our generation is knowledgeable about environmental issues, but only with firm, decisive, and collective action, we can really create a greener world. regardless of their commitments, some companies ended up being accused of damaging an environmental and suffered a lot of fines, penalties, clean-up costs, and damaging their reputations. Businesses are, however, concerned with reducing the number of employees then reducing their ecological footprint particularly in developing countries.

Choosing what item to tax and which to exempt from taxes allow double policy tools of incentives. Since tax generally decreases consumption of the items taxed, however, a revenue-neutral taxis a commonsensible strategy is to tax undesirable activities more and desirable activities less. These principles lead to environmental tax philosophy of “Tax Bad not Good, or Tax Waste does not work” (Hamond, 1997, Hayash & Val, 2001) because taxing bad things is corrective and good things are distortionary and its welfare improving to tax bad things high and good things low. If work, income, wages, and investments in productive activities are taxed less, these items will be encouraged. If resources use, land use and pollution are taxed, natural resources will be conserved, the land will be used efficiently, and industry will avoid pollution. This revenue neutral shift is a common environmental tax strategy.

While higher environmental taxes are often promoted by liberals for environmental reasons, conservative’s ideology often recommended lower income taxes. Because many of the plans to reduce income taxes are combined with the suggestion to replace them with higher sales taxes (Crane, & Boaz, 2005). While this would decrease consumption, it is highly regressive, and indirectly addresses resource consumption downstream. It pushes the labor and capital portion of production. Environmental taxes are better alternatives to replace income or payroll taxes and address resource consumption directly. An environmental tax shift can stimulate the economy and protect the environment at the same time and improve sustainable development.

Failure to account for external costs in prices also violates the “polluter pays principle”. An environmental tax shift can begin to internalize some of the external

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costs and help make polluters pay. With environmental taxes resources will be conserved, the land will be used more efficiently, and consequently, pollution will be reduced. That is using revenue generated by the environmental taxes, some existing taxes have to be cut in another word shifted, for example, income tax, corporate tax etc. so that the introduction of environmental taxes doesn't add another burden to taxpayers in the long term, the double dividend will lead companies to better integrate environmental concerns into decision making and eventually result in structural change in the industries.

However, in the Case of Nigeria: The Nigeria tax system is somehow dominated by the Federal government who handle the most veritable tax, while the lesser one are control by state and local government. The Federal government tax corporate body while the state and local government tax individuals (Ayodele, 2006). Therefore, thus affects the sustainable environmental policy, hitherto increase in pollution by some manufacturing companies. The Nigerian tax system is characterized by unnecessarily complex, distortionary and largely couple with largely inequitable taxation laws that has limited application in the informal sector that dominate the economy (Odusola, 2019).

3.0 METHODOLOGY

A quantitative design was used as the primary research tool in this study which questionnaire was administered. The questionnaire was adapted and used after minor modification such as grammatical mistakes were checked and original scale (5 points Likert scale) ranging from ("Strongly disagree to strongly agree) was used. The quantitative data analysis was analysed using Structural Equation Model (SEM) as it's allowed the estimation of the complex relationships, especially when the moderating effects exists (Amali & Nilakshi, 2016). The populations of the respondents were purposefully selected from tax officers in Ministries and other Non-Governmental Organizations, as well as from the organized private sector in the North-East geographical region of Nigeria, using expert sampling as one of the non-probability sampling method. Further, the population of the study comprises of 700 respondents that were recorded in the sample of 450 participants which were selected randomly. 383 were successful answered the questions that were administered to them and 67 questionnaire were not fill and return. Who were chosen base from there working experience on tax matters.

The measurement model of the research work "specifies the indicator for each construct, and enables an assessment of construct validity "Hair, 2006, Nilakshi,

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2016). Based on the conceptual model, there are Four-factor latent variable, namely Tax shifting 1 (TS1), Tax shifting 2 (TS2), Tax shifting 3 (TS3). And Tax shifting 4 (TS4) the tax shifting 1-3 (TS1-TS3) are the independent variable whereas TS4 is the dependent variable in the model. The goodness of fit (GOF) Measurement of Chi-Square, the goodness of fit index (GFI), Comparative fit index (CFI), and Root Mean Square Error of Approximation (RMSEA) was used to evaluate measurement model. The final measurement model achieved a good level of fit having a Chi-square = 852.084, CMIN/DF = 32, GFI = 0.840, CFI = .451 and RMSEA =0.397.

4.0 RESULTS AND DISCUSSION

This section of the study presents results and discussion of the findings. Table 1 depicts weight regression result. From the regression weight for TSI in the prediction of TS4 is significant at two-tailed tests. Therefore, it has indicated that all the variables in the regression weight have a strong significant probability value which can be concluded that the entire loading factors are highly significant. Further, for the critical ration C.R. the regression weight estimate is -3.774 standard error below zero and the regression weight of -202 has a standard error S.E of 0.53, also the regression weight has shown that on the estimate when TS1 goes up by 1, standard deviation of TS4 goes down by 0.202. However, when the regression weight estimate is 3,559 the standard error is above zero and TS2 goes up by 1, TS4 goes up by 0.116. Furthermore, when TS1 goes up by 1 Q1 goes by 1 this regression weight was fixed at 1.000, not estimated.

Table 1: Regression Weights: (Group number 1 - Default model)

Variables	Estimate	S.E	C.R	P
TS1 Factor loaded Impacted on TS4	-.202	.053	-3.774	***
TS2 Factor Loaded Impacted on TS4	.116	.032	3.5592	***
TS3 Factor loaded Impacted on TS4	.200	.054	3.693	***
TS1 Factor Loaded on Q1	1.000	-	-	-

Source: Survey Data (2019) (Estimation using (SEM)

Analysis on the estimate shows that the predictions of the tax shifting (construct of TSI and TS4) explain that when TS1 goes up by 1 standard deviation TS4 goes down by 0.605 standard deviations and when TS2 goes up by 1 standard deviation TS4 goes by 0.365 standard deviations. Whereas the interpretation on square multiple correlations it is estimated that the predictors of TS4 explain 90.7 percent of its

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variance in other words, the error variance of TS4 is approximately 9.3 percent of the variance of TS4 itself.

Table 2: Standardized Direct Effects (Group number 1 - Default model)

	Estimate	SE	CR	P. Label
TS4-TS1	.605	0.53	-3.774	* * * *
TS4-TS2	.365	0.32	3.559	* * * *
TS4-TS3	.639	0.54	3.693	* * * *

Source: Survey Data (2019)

Over 383 personnel that were served with the questionnaire only 316 responded, and 86 percent of the respondents were male and 14 percent females. In term of age group, 29 percent were less than forty years of age whereas 37 percent were between 41-50 and 34 percent were above 50 years. For educational attainment, 33 percent have school education and 35 percent have undergone professional courses related to tax administration and 32 percent have a Masters Degree and above. Out of the population, 60 percent are Muslims 38 percent were Christian and 2 percent were traditional religions.

The basic structural model (see Figure 1) Chi-square is 852.084 with 32 degree of freedom and probability of level <0.05. This P value is significant (<0.05). However, the Chi-square cannot be used alone; goodness of fit also needs to be employed to determine whether hypotheses accept or reject from the study. CMIN/DF, RMR, GFI, and RMSEA Are employed as a measure of absolute fit and IFI, TLI, CFI, NFI are used to assess incremental fit. Tables 1 represent the goodness of fit indices from the output of the structural model.

Table 3: Results of Goodness of fit for the basic structural model

Obtained fit indices						
	Absolute			Incremental		
CMIN/DF	AGFI	GFI	RMSEA	IFI	TLI	CFI
26.628	.446	0.840	0.397	.456	.228	.451

Suggested fit Indices

≤ 3	≥0.90	≤ 0.05	≥0.90

Source: Survey Data 2019 (Estimation using (SEM)

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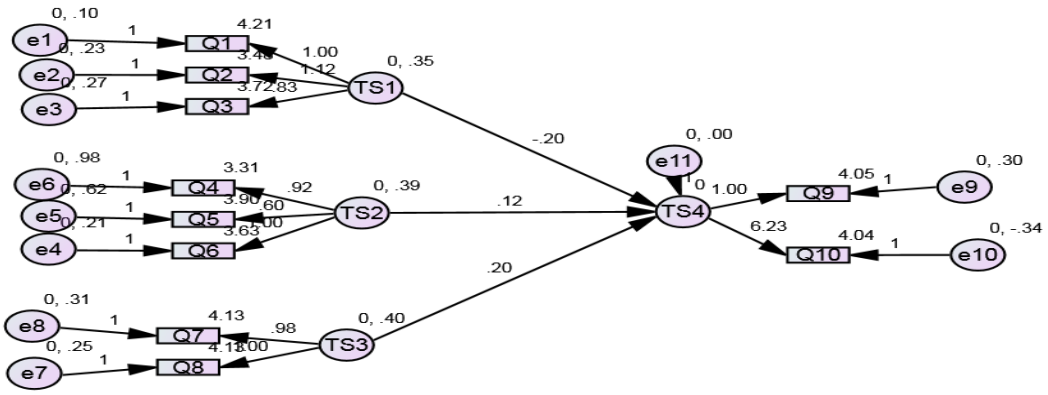
In summary, X^2/df is 1.664 and is in an acceptable range according to the criterion < 3 and < 5. RMSEA (Root Mean Square Error of Approximation) value is 0.397. This value is below the established cut off value <0.05 which mean that the model fits well the population. Regarding the incremental fit measures, which assess how well the model fit relative to the null model IFI, 0.456, CFI 0.451; TLI 0.228 respectively which did not exceed the cut of the value of 0.9, as recommended by Hair, Black, Babin, Anderson, & Taham (2006). Results of the incremental fit indices indicate that the hypothesized model fit the data better than the null model. In conclusion, the goodness of fit measures indicates that the model fits the data and could be used to explain the studied hypotheses. The result indicates the effects of TSI, TS2, and TS3 towards TS4 is positive and significant ($p < 0.05$) among them TS1has the strongest effect on TS4.

Unstandardized estimates (Fig 1)



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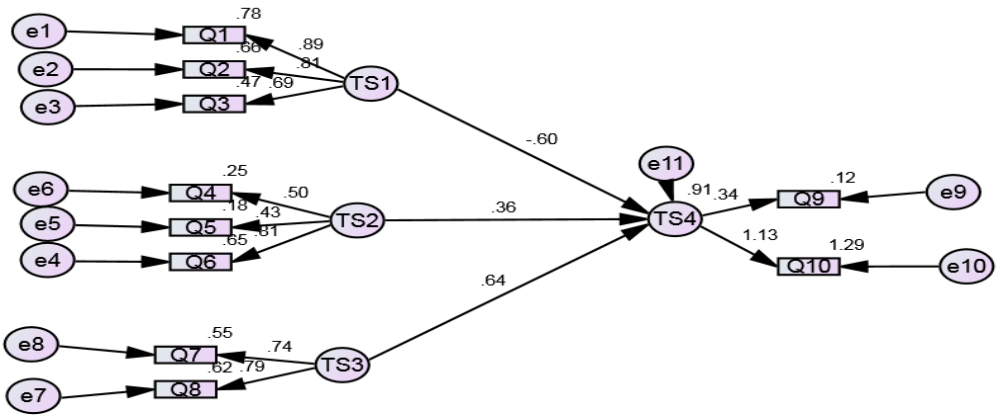
Standardized Estimates (Fig 2)



5.0 CONCLUSION AND RECOMMENDATIONS

The study explores the role of tax shifting as an innovative approach on environment tax policy using data from Nigeria. Tax shifting can produce a noticeable change in the level of pollutant with minimum cost. Hence, whenever a tax is imposed, a chain of adjustment will take place in the sphere of the transaction. Therefore, tax shifting allows taxes on production and the possibility of reducing taxation of productive activities, while increasing taxation of natural resources, land, and pollution, resulting in a "greener" more productive economy. By joining the popular movement for environmental taxes the broader goal of payment for use of natural opportunities, and

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exempting private effort can be achieved more readily. Environmental taxes may unevenly hurt households use significant part of their income on dirty good and firms that operate businesses that are unfriendly to the environment. However, environmental tax and tax shifting policy have many important effects, like environmental effectiveness, economic efficiency, and the ability to raise more public revenue in an economy. They can also be to address a wide range of issues including waste disposal, water pollution, air pollution and degradation of environment.

The findings from the study reveals found that tax shifting can produce a noticeable change in the level of pollutant with minimum cost. This is because charging of pollution by putting a price on what was formally free it will discourage pollution and other related activities in a country. The result remained pivotal and guide for policy makers especially in developing countries like Nigeria where festering environmental challenges are imminent particularly in oil producing and industry based zones.

Developing countries should be encouraged to implement tax shifting in their policy on industries that their activities are not environmentally friendly as it is an effective mechanism to reduce environmental pollution. Imposition of tax shift on natural resources although would increase their cost but will equally encourage conservation. For economic efficiency taxes on productive labor and capital should be reduced. This will present a viable plan for the environmental tax shift in a giving country. More gain, another pleasant way to encourage tax shifting is through stimulating higher degree of awareness among individuals and firms. The benefits and costs of action and inaction regarding environmental tax needs to be spelt out clearly so that citizens will become well-inform.

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