Cuadernos de Economía (2021) Volume 44, Issue 126, 57-66

Asociación Cuadernos de economía

Cuadernos de economía

www.cude.es

ARTÍCULO

Relationship between Environmental Tax and Production Cost

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Jel Codes:

Keywords:
Environmental taxes;
Environmental costs;
Production cost;
Environment protection;
Environmental Pollution.

Abstract: Some countries may struggle to levy an environmental tax. Because most polluting projects are industrial, it is critical to match the tax burden to these projects' capability to avoid forcing them to cease, lay off people, or restrict production. We focused our research on the most important methods that some countries have followed to determine the optimal point. Thus, the environmental cost and appropriate tax were determined in proportion to the environmental damage resulting from the pollution caused by those facilities without negatively impacting its production and operational capabilities. There is a link between environmental taxes and production costs. The data was collected from 49 people using AMOS 26v. It found a substantial positive correlation between the factors. The study concluded that environmental taxes alone are not sufficient to reduce pollution; an integrated set of strategies is required.

https://doi.org/10.32826/cude.v1i126.506

Introduction

Environmental taxes may be a covert method of taxing rents associated with natural resource scarcity. For example, taxes on fossil fuel demand may be borne in large part by the owners of fossil fuel resources, as these taxes may significantly reduce the net-of-tax prices of these fuels (Niu et al., 2018). Environmental taxes operate similarly to rent taxes in that they are levied on owners of inefficiently provided reserves and have no efficiency cost. Rent Tax refers to any tax or excise on rent or charges that Tenant must pay under this Lease (Law Insider, 2020).

Environmental taxes provide incentives for consumers and producers to change their behaviour toward more 'eco-efficient' resource use. They can stimulate innovation and structural changes, and strengthen regulatory compliance raise revenue that can be used to improve environmental expenditures and reduce taxes on labour, capital, and savings. As a result, the possibility of a second (non-environmental) dividend is improving (Song, Zhao, & Zeng, 2017). On the other hand, this same pattern indicates that environmental improvement is less likely: the higher the tax paid by reserve owners, the less the increase in the gross-of-tax price paid by demand for these fuels (Ambec et al., 2020). The environment, which diversifies, is seized. Its varieties posed the greatest threat to the health of humans, animals, and plants, as evidenced by the spread of disease in humans and a lack of agricultural production, both of which have a direct negative impact on any country's gross domestic product (Song, Wang, & Zhang, 2020).

Additionally, we will go through all of the information about environmental costs. Then we will discuss some of the policies and methods implemented by various countries across the world to balance environmental taxes on the one hand and taxpayers' ability to absorb environmental costs while maintaining and increasing production on the other (Wang, Wang, & Huang, 2017). The research will examine how increasing the costs incurred by organisations that conduct manufacturing activities results in the junction of the tax collection and manufacturing processes (Wu, Hao, & Ren, 2020). Environmental taxes are one sort of tax that has the special purpose of protecting the environment from pollution (Nordhaus, 2020). As a result, it bears little resemblance to the tax in its broadest definition (Yenipazarli, 2019). It is a sum of money stolen from people by force, permanently and without regard for their well-being, to accomplish universal goals (Liu et al., 2018). The tax is a mandated monetary deduction from individuals based on their ability to pay, regardless of their advantages from these services; its proceeds are used to achieve economic, social, and political goals (Kenny & Winer, 2006). Environmental protection is not, and has never been, one of the tax's primary objectives (Thampapillai & Ruth, 2019). Additionally, it is difficult to incorporate the tax's primary pillars into the deductions imposed on environmental violators (Kenny & Winer, 2006).

Along with the existence of a rule for allocating tax revenue as a specific benefit expense between the fundamental traditional financial rules and fulfilling the goal of developing a tax specialised in environmental protection (Forslid, Okubo, & Ulltveit-Moe, 2018). The environment can be broadly defined as "a collection of social, economic, biological, chemical, and physical variables that influence the lives of living creatures positively when they are in natural equilibrium and negatively when they are out of balance." When numerous actions take place, living things, including the human person, are the primary cause of ecological imbalance. Marino and Franco (2017) It is also referred to as "all environmental relations between elements or components of the environment that are connected and balanced," as an ecosystem is defined as "an organisational unit in a particular space that contains living and non-living elements that coexist and result in matter exchange between its living and non-living elements" (Goulder & Parry, 2020). Environmental taxes, as defined by the Organization for Economic Cooperation and Development, are "compulsory deductions made by the government at no cost, assessed on a container representing a special environmental interest." Specific funds to the state treasury for environmental protection, or it is a "compulsory deduction paid by the individual as a portion of the costs and public responsibilities, provided that the environment is included in the public burdens." Additionally, it can be described as monetary rights deducted by the state due to environmental use (Leontief, 2018). Environmental tax rules in developed countries were established based on a definition of environmental taxes. This definition includes pollution sources such as emissions into the air, discharge into water, substances affecting the ozone layer, waste, natural resources, noise, and energy products such as fuel and electricity, and taxes (Bosquet, 2000).

Imposing high carbon levies will provide a critical incentive for manufacturing units to innovate, renew, and buy less polluting technology (Bailey, 2018). Rather than that, it is predicted that large manufacturing units will invest a portion of their revenue in studies and research aimed at developing technological ways for reducing pollution levels to acceptable levels. at an affordable price (Dechezleprêtre & Sato, 2020). The previous study describes the fossil fuels kilometre tax, which is imposed on diesel vehicles and is calculated as a fixed sum for every ten kilometers and based on the vehicle's type and weight subject to the tax. Given that this tax is a direct charge on fuel consumption (a variable cost), it is considered an effective tool from an environmental standpoint, which becomes clear compared to the motor vehicle tax, which is a tax on the vehicle itself (Liao, 2018). However, tax policies that address pollution revolve around a variety of policies. That could be implemented to address the environment conversion and pollution problem, particularly considering significant increases in environmental pollution as a result of wars and the misuse of natural components through damage landscaping and littering, as well as a lack of government attention to environmental preservation (Sandmo, 2020). As a result, it became important to adhere to fiscal principles, which included levying taxes or fees without providing any service in exchange for the citizen's payment. In comparison, others are realistic measures to increase environmental awareness through the green economy. Environmental taxes are one of the more effective tools governments have to combat environmental pollution and detrimental conduct toward the biosphere (Popp, 2019). These tariffs are imposed on polluting vehicles to promote the use of cleaner vehicles. Taxes on certain raw resources, such as electricity and energy taxes, are included in the price. Its objective is to reduce energy use and alter consumer behavior (Yu & Cruz, 2019).

The tax system consists of various levies and tax exemptions in the form of economic incentives, which are efficient financial weapons for reviving market forcesto solve the problem of pollution on a broad scale (Ouyang, Li, & Du, 2020).

This study raised awareness about the importance of a pollution-free society because it educated enterprises and industries prone to transmit pollution through waste material about the concept of an environmental tax system and laws that benefit a pollution-free environment. Additionally, it is beneficial for the government to implement regulations geared toward generating a clean and clear atmosphere. According to Heine and Black (2018), environmental tax reform (ETR) can assist finance ministries in raising much-needed domestic funds for expanding public spending, can be relatively straightforward to design and implement, and can serve as the fiscal foundation upon which developing countries can achieve both the Sustainable Development Goals (SDGs) and their Nationally Determined Contributions (NDCs) (NDCs). Environment taxes are advantageous. They provide effective policy tools for addressing current environmental priorities caused by 'diffuse' pollution sources such as transportation emissions (including air and maritime transport), waste (e.g. packaging, batteries), and agricultural chemicals such as pesticides and fertilisers.

Literature Review

According to previous research, the economic purpose of environmental taxes is to incentivize individuals and businesses by compelling them to change their environmental behaviours or bear the costs of pollution. Moreover, it can be done by encouraging them to avoid storing hazardous industrial waste and limiting activities that pollute the environment because they have become prohibitively expensive (He et al., 2021). Environmental taxation encourages the adoption of new technologies that are less polluting to the environment, as this taxation may induce the taxpayer to seek ways to avoid its burden, particularly if the taxpayer is a legal person, such as a company that conducts large-scale industrial operations.

Thus, they seek technical solutions to ensure that their activities do not pollute the environment and employ mechanisms to control pollution to avoid paying the tax. Increased awareness of economic units' environmental responsibilities in the early 1970s significantly impacted the development in theoretical research and attempted to establish accounting measurement models for environmental costs data (Muhammad, Hasnu, & Ekins, 2021). Due to the authors' and researchers' inability to define a precise concept of environmental costs, (which manifested itself in their perceptions of the scope and measurement methods for these costs) they view environmental costs to compensate for the harm caused to society by the economic unit's activity, such as pollution and noise. They are the negative internal and external effects reflected in the units of environmental costs. On the other hand, others agree that environmental costs refer to the damages incurred by society due to climate change (Zhou et al., 2020). Environmental costs include all losses. These are incurred by a manufacturing facility to prevent or avoid environmental damage occurring now or in the future because of its various activities, as a means of correcting errors or damages that typically occur because of its actions or decisions and which it has failed to correct. Environmental costs are measured regarding the resources depleted due to the economic unit's activity (Aspara, Luo, & Dhar, 2017). Environmental taxation is particularly beneficial in developing nations, where it can help cut emissions, boost domestic revenue, and have a favourable effect on welfare (Heine & Black, 2018).

Environmental cost analysis approaches have evolved in response to the demand for economic units to recognise their role in reducing environmental contamination due to both legal and environmental concerns (Helander et al., 2019; Siping et al., 2019). It is necessary to monitor environmental tax prices to ensure they remain consistent with the general situation and avoid harmful external costs. It is because "stagnation and inflexibility is an arbitrary system, as the imposition of a unified tax on each unit of pollution regardless of its nature, volume of production, or polluting activity, will harm small projects during recessions, according to the World Bank" (Li & He, 2018).

The result is written above is an attempt to make environmental taxes variable or mixed value. It means fixed and variable at the same time, in response to environmental conditions to establish and demonstrate the relationship between tax revenues and environmental costs to progress toward achieving the benefit of the environmental tax by reducing environmental pollutants through developments in work organisations (Mas' ud et al., 2020). Based on economic studies conducted in the region, the countries of the Cooperation Council for the Arab States of the Gulf believe that increased consumption of the world's resources has increased environmental costs (Fodha, Seegmuller, & Yamagami, 2018). Thus, the GCC states will continue to work to reduce economic and environmental losses, as well as social spending, associated with pollution, as well as to treat it, through the implementation of a joint plan aimed at mitigating the damage to natural resources caused by continuous consumption and the imperative to preserve them for present and future generations (Meta et al., 2020). Pollution control has emerged as a critical national objective for industrialised countries, as evidenced by the allocation of large-scale projects and the urge to use advanced technologies (Krysovatyy et al., 2018).

Additionally, the Gulf countries compel modern investment companies to exercise prudence and check their production levels, which are directly tied to pollution levels and increase the cost of remediation increase the remediation. This is a position. Consciousness stems from the fact that the cost of preventing pollution is far less than the cost of purifying it once it occurs, implying that prevention is less expensive than treatment (Liu, Li, & Song, 2020). Environmental tax policies in industrialised countries have been set following the notion of environmental taxation, which incorporates all income streams. Pollution encompasses, but is not limited to, emissions into the atmosphere, discharge into water, substances that degrade the ozone layer, rubbish, natural resources, noise, energy products such as fuel and electricity, and levies levied against the transportation industry (Muhammad et al., 2021). Simultaneously, most people, particularly in industrialised and capitalist countries, boast about the civilization's achievements over the last few centuries due to their accomplishments, including scientific discoveries and technological advancements. By increasing environmental taxes to cover the costs, the Gulf nations' concerned authorities choose to carry the brunt of the obligation and avoid burdening the citizen with the expenditures alone (Song et al., 2020). Numerous prior research establishes the conceptual framework for environmental tax reforms. According to Bosquet (2000), environmental tax revenue will likely result in considerable pollution reductions, small gains in employment, and marginal gains or losses in productivity in short to medium term. This tax contributes to economic growth (Bovenberg & Mooij, 1997). Hoerner and Bosquet (2001) examined a sample of European nations implementing environmental tax measures. Williams's (2002) attempts to construct an analytical general equilibrium model that considers numerous potential benefits of pollution reduction, such as increased health or productivity, revealing that labor productivity increases when pollution is reduced. Dresner, Jackson, and Gilbert (2006) examine the social consequences of ETR policies and create more effective designs in the United Kingdom. The findings reveal a lack of faith in the revenue's use, confusion regarding the aim of a tax shift, and a need for both incentives for good behaviour and perceived 'penalties' for bad behaviour. According to Brécard (2011), the emission tax promotes welfare by reducing pollution. Several scholars proposed the following environmental tax policies: (Gao et al., 2019; He et al., 2019; Kim & Shin, 2017; Leal, Garcia, & Lee, 2018; Radulescu et al., 2017; Yu, Cruz, & Li, 2019). No single study focuses exclusively on environmental taxes through production costs as independent variables and the SEM analysis approach.

Methodology

To examine the relationship between environmental taxes and manufacturing costs, this report utilised the magnitude of (Fodha et al., 2018). Environmental Tax (ETAX) was employed as an independent variable, whereas Production Cost (PCST) was used as a dependent variable. This study collects data entirely quantitatively. Quantitative methods, as defined by Allwood (2012), are approaches to quantitative data that require numerical measurement (McCusker & Gunaydin, 2014). 49 respondents provided data. AMOS 26v was used to evaluate the collected data. AMOS is a statistical package for analysing moment structures. AMOS is an add-on module to SPSS intended for use with Structural Equation Modeling, path analysis, and confirmatory factor analysis.

Additionally, it is referred to as analysis of covariance or causal modelling software (Collier, 2020; Statistics Solutions, 2022). Researchers heavily utilise AMOS. AMOS is extensively used by the researchers for multivariate analysis, integrating several multivariate analysis methods such as regression, factor analysis, correlation, and analysis of variance (Thakkar, 2020a).

Analysis Technique

Structural equation modelling (SEM) is a technique for identifying the relationships between multiple variables. It is a confirmatory method for determining whether facts and conceptual models fit. SEM is a multivariate scientific approach used to research, examine, and analyse the cause-and-effect relationship between variables (Barrett, 2007; Thakkar, 2020a). This model enables you to compute direct and indirect effects associated with previously established cause-and-effect relationships. Additionally, SEM is a blend of factor analysis and multiple regression. The SEM's fundamental statistics are the covariance, variance, correlations, and regression coefficients (Thakkar, 2020b). Numerous earlier studies have used multivariate analysis techniques such as regression, factor analysis, correlation, and analysis of variance (Barrett, 2007; Collier, 2020; Gallego-Alvarez et al., 2014; Mustafa, Nordin, & Razzaq, 2020; Sarkodie & Ozturk, 2020; Thakkar, 2020a, 2020b).

Analysis and Discussion

The SEM Model (Structure Equation Model) for the research framework is presented below Figure 1. The diagram below depicts the loadings of variables against variables and items against variables. The error words are meant to lessen the chances of making a mistake. The Chi-square of the Default Model was 167.025, according to the AMOS 26 v findings. The value for Degrees of freedom, on the other hand, was 101, with a Probability level of 0.000.

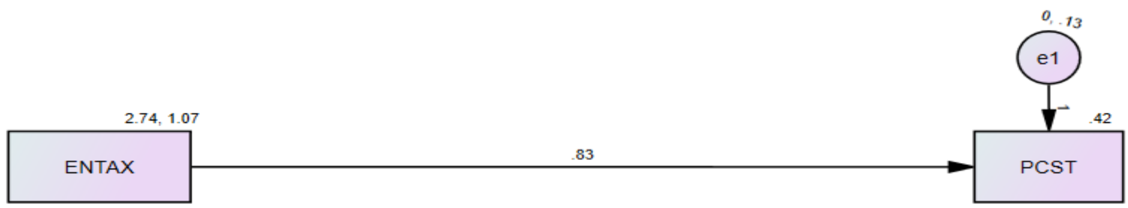

Figure 1. Research Framework

Assessment of Normality

The results of the normality test analysis for each independent and dependent variable are shown in Table 1 below. The minimum and maximum values and the skew and kurtosis values are displayed in the output. The measuring items for variables have a minimum value of 1.00 and a maximum value of 5.00, and the value for Skewness and Kurtosis is negative therefore, all items are tailed to the left side, according to the results.

Table 1. Normality Test

Variable	Min	Max	Skew	C.R.	Kurtosis	C.R.
ENTAX	1.000	4.600	.173	.496	-1.199	-1.714
PCST	1.000	4.167	.005	.013	-1.260	-1.801
Multivariate					-1.181	-1.033

Regression Weights

The result illustrated in Table 2 below depicts each measurement item's regression weight concerning ICEPT and SLOPE based on the estimated values used in the calculation. At the SLOPE level, the dependent and independent variable; PCST (Production Cost) ← ENTAX (Environmental Tax) has ICEPT estimate values and an estimated value of 0.831 (83.1%) significant at the SLOPE level.

Table 2. Regression Weights Results

			Estimate	S.E.	C.R.	P	Label
PCST	**<---**	**ENTAX**	.831	.050	16.666	***	par_1

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Standardized Regression Weights

The values for Standardized Regression Weights are displayed in Table 3 below. The estimates for the relationship (cause-and-effect relationship) between the measuring items and the variable are depicted in Table 3. The results indicate that the estimated value for the standardized regressions weights between the variables (PCST ← ENTAX) is 0.923.

Table 3. Standardized Regression Weights Results

			Estimate
PCST	<---	ENTAX	.923

Means

Table 4 given below illustrates the value of Standardize Estimate, Critical Ratio, and Significance value of independent variable (ENTAX- Environmental Tax). The results indicate that the value of S.E for ENTAX is 0.150, for C.R is 18.304, and the value of P <= 0.05.

Table 4. Means Results

	Estimate	S.E.	C.R.	P	Label
ENTAX	2.739	.150	18.304	***	par_2

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Intercepts

Table 5 below illustrates the value of Standardize Estimate, Critical Ratio, and Significance value of dependent variable (PCST- Production Cost). The results indicate that the value of S.E for PCST is 0.146, for C.R is 2.885, and the value of P <= 0.05.

Table 5. Intercepts Results

	Estimate	S.E.	C.R.	P	Label
PCST	.421	.146	2.885	.004	par_3

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Minimization History

The outcomes of all iterations are displayed in the minimization history, which starts at 0 and ends at the same level as the beginning. Positive eigenvalues, condition values, smallest eigenvalues, diameter rates, and the F-statistic value, as well as the ratio analysis of each iteration, are all included in the results given below in Table 6. The negative eigenvalues are as follows: 1, 1, 0, 0, 0, 0, 0, and 0. Following the results, the f statistic values for each iteration are: -0.172, and -0.577 for the first two iterations. A positive link between variables is demonstrated by the diameter results, suggesting a history of minimizing between variables.

Table 6. Minimization History Results

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F-stat	NTries	Ratio
0	1		-.172	9999.000	86.883	0	9999.000
1	1		-.577	1.051	24.481	19	1.015
2	0	168.010		.244	6.464	6	.908
3	0	237.127		.168	.573	2	.000
4	0	214.064		.033	.018	1	1.100
5	0	210.211		.005	.000	1	1.031
6	0	217.157		.000	.000	1	1.002
7	0	218.191		.000	.000	1	1.000

CFA

A confirmation factor analysis test ensures that the factors loading between items and variables in the model is right. It may also be used to identify problems or faults in the factors loading between items and model fit (Mustafa et al., 2020). Because the confirmatory factor analysis result contains all the required values, the values recovered are good, indicating that the model is well-fitting and acceptable. This is seen in Figure 2, which depicts the values recovered from the data.

Variances of the default model

Below Table 7 contains detailed results for the variance in ENTAX (Environmental Tax). The estimates, critical ratio, and statistically significant values for each of the three investigations are presented in the table given below.

The statistically significant values for ENTAX are less than 0.005. However, the value of estimate variance in ENTAX is 1.075, S.E is 0.219, and C.R. is 4.899, respectively. To account for this, a substantial amount of information about the variables is obtained.

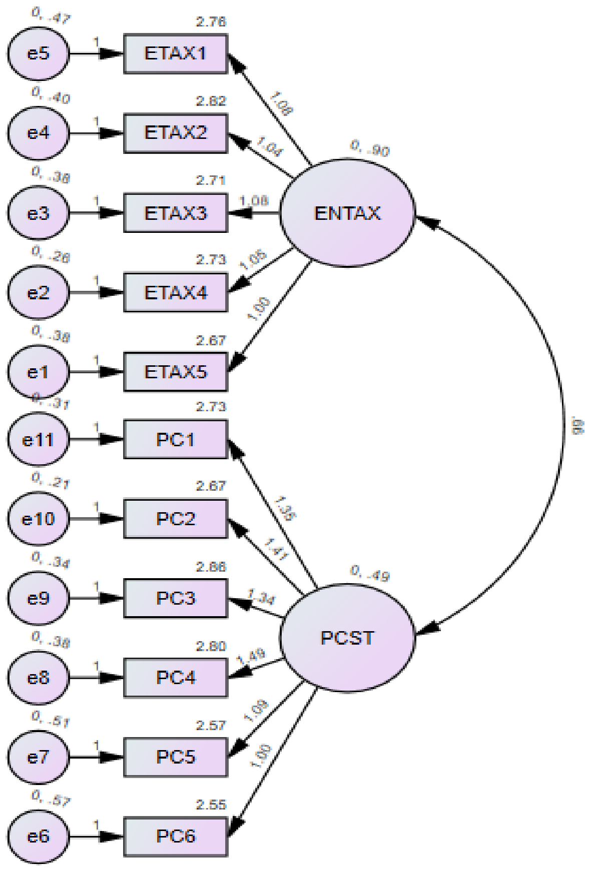

Figure 2. Confirmation Factor Analysis

Table 7. Variances results of the default model

	Estimate	S.E.	C.R.	P	Label
ENTAX	1.075	.219	4.899	***	par_4

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Squared Multiple Correlations

Table 8 shows the value for Squared Multiple Correlation. The results show that the value of PCST is 0.853. This shows the changes of total variation in the variables is 85%.

Table 8. Squared Multiple Correlations Results

	Estimate
PCST	.853

Covariance

Table 9 underneath shows the covariance between the variables. The covariance indicates the intercorrelated effect of variables on each other. The results indicates that PCST ←→ ENTAX has an estimated covariance of 0.662, which means that if one unit of PCST changes, it will create a 66.2% change in one unit of ENTAX. However, the value of S.E. is 0.183, C.R. is 3.621. Furthermore, the value of P is less than 0.05. This indicates that the ratio of PCST ←→ ENTAX is significant.

Table 9. Covariance Results

	Estimate	S.E.	C.R.	P
PCST ←→ ENTAX	.662	.183	3.621	***

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Variances

The values of Variance in variables are presented in Table 10 given below. The findings demonstrate a significant degree of diversity in ENTAX and PCST. On the other hand, ENTAX and PCST exhibit statistically significant variation.

Table 10. Variance Results

	Estimate	S.E.	C.R.	P	Label
ENTAX	.904	.253	3.577	***	par_22
PCST	.494	.186	2.658	.005	par_23

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

Factor Score Weights

Table 11 underneath shows the factor score weights for each variable and the total factor score weights. The variables represent the projected weight of each item concerning the factors based on the predictions. For example, taking ETAX4 an example, it gives the variable with the strongest loadings possible by supplying the variable with a 0.141 load against the variable ETAX.

Table 11. Factor Score Weights Results

	PC1	PC2	PC3	PC4	PC5	PC6	ETAX1	ETAX2	ETAX3	ETAX4	ETAX5
ENTAX	.084	.130	.076	.077	.041	.034	.079	.091	.099	.141	.092
PCST	.080	.124	.072	.074	.040	.033	.045	.051	.055	.079	.052

Model Fit Summary

The ability of a model to reproduce the data is given (i.e., usually the variance-covariance matrix). A good fitting model is reasonably consistent with the data and does not necessarily require specification (Kenny, 2020). Model fit measures are based partly on the number of degrees of freedom and require this to be positive (Kenny, 2020). In present study researcher analysis model fit summary through applied different techniques such as CMIN, FMIN, RMSE, NCP, AIC, ECVI and HOELTER. Data analysis from estimate the default model, saturation model and independence model. The basic model presented in figure 1 is known as the default model, the independence model represents each measured variable is correlated exactly 0.0 with each other measured variable (with no latent constructs) and thus usually produces results indicative of poor fit with the data, and finally, the saturated model, uses the maximum available parameters and thus is guaranteed to provide a perfect fit. A saturated model has the best fit possible since it perfectly reproduces all of the variances, covariance and means (STATS, 2020).

- **CMIN**

The ENTAX and PCST models are included in the model fit summary through CMIN results shown below in Table 12. The saturation model also explains the independence model and the default model. According to the results, the NPAR values for the three models are 34, 77, and 22. Although the default model is 90.474, the saturated model is 0.000, and the independence model's CMIN is 576.872 in the independence model. The result also shows the probability values, which are now 0.000 and 100 per cent significant, respectively. According to the previously mentioned model, CMIN/DF rates for the default model are 2.104, whereas the rates for the independence model are 10.489.

Table 12. Model Fit Summary CMIN Results

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	34	90.474	43	.000	2.104
Saturated model	77	.000	0		
Independence model	22	576.872	55	.000	10.489

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

- **Parsimony-Adjusted Measures**

Table 13 underneath shows the value of Parsimony Adjusted Measures, which may be found in the following table. The correlation between the indexes is represented in table 13, demonstrating how well they are matched to one another. It is revealed from these results that the PRATIO of 0.782 for the default model, the PRATIO of 0.000 for the Saturated Model, and the PRATIO of 1.000 for the Independence Model is obtained. While working with the default model (which is 0.659), using the saturated model (which is 0.000), and using the independence model (which is 0.000), the PNFI value is 0.711. Alternatively, the default model has a PCFI of 0.711, which is a negative value.

Table 13. Parsimony-Adjusted Measures Results

Model	PRATIO	PNFI	PCFI
Default model	.782	.659	.711
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

- **NCP**

Table 14 shows NCP, LO90, and H190 values for each model and a summary of model fitness for each model, which are displayed in this result. When using the default model, an NCP of 47.474 is obtained; however, a significant ratio of 0.000 is obtained. When representing the default Model, L090 has values of 23.949 for the default model, 0.000 for the saturated model, and 448.452 for the Independence Model, respectively. As stated in this hypothesis, the value of HI 90 Default Model is 78.755, 0.000 values in the saturation model of the values model are statistically significant, but 602.744 in the independence model have a positive hypothesis value, according to the H190 hypothesis.

Table 14. Model Fit Summary NCP Results

Model	NCP	LO 90	HI 90
Default model	47.474	23.949	78.755
Saturated model	.000	.000	.000
Independence model	521.872	448.452	602.744

- **FMIN**

With a fitness summary FMIN value of 1.885, the default model outperforms the saturated model, with a value of 0.000. The independence model outperforms the saturation model with a value of 12.018. According to the F0 model, the rate levels for each perspective are 0.989, 0.000, and 10.872, respectively, based on the data. The LO 90 ratios for each model are 0.499, 0.000, and 9.343, respectively, suggesting that the fitness of each variable's model is statistically significant and acceptable in terms of overall fitness. The default model value for HI 90 is 1.641, the saturated model value is 0.000, and the independent model value is 12.557, results presented in Table 15.

Table 15. Model Fit Summary FMIN Results

Model	FMIN	F0	LO 90	HI 90
Default model	1.885	.989	.499	1.641
Saturated model	.000	.000	.000	.000
Independence model	12.018	10.872	9.343	12.557

- **Root Mean Square Error of Approximation (RMSEA)**

Table 16 shown the values of the RMSEA, suggested that values less than 0.05 are good, values between 0.05 and 0.08 are acceptable, values between 0.08 and 0.1 are marginal, and values greater than 0.1 are poor (Kenny, 2020). RMSEA for the default and independence models are 0.152 and 0.445, respectively, and the LO 90 for the default and independence models are 0.108 and 0.412, respectively. As a result of the data, the positive hypothesis value for HI 90 is 0.195 and the positive hypothesis value for model is 0.478. The PCLOSE rate for both models is 0.000 and 0.000, showing that both models are statistically significant (HI 90 is significant).

Table 16. Model Fit Summary RMSEA Results

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.152	.108	.195	.000
Independence model	.445	.412	.478	.000

Note: *; **, and *** demonstrates significance level at 10%; 5% and 1% respectively

- **Akaike Information Criterion (AIC)**

It is possible to examine the ETAX and PCST using the AIC fit summary in Table 17. Lower values indicate a better fit, and so the model with the lowest AIC is the best fitting model (Kenny, 2020). AIC for each of the models, default model value is 158.474. Saturation models are represented by a value of 154.000, whereas a value of 620.872, respectively represents independence models. It was discovered that the value of the BCC is inversely proportional to the overall performance of the model. The default model receives a score of 181.141, whereas the saturated model receives 205.333 and the independence model receives 635.538, respectively.

Table 17. Model Fit Summary AIC Results

Model	AIC	BCC
Default model	158.474	181.141
Saturated model	154.000	205.333
Independence model	620.872	635.538

- **ECVI**

Following the values shown in Table 18 below, the ECVI value is concerning the Default Model is 3.302, the Saturated Model is 3.208, and the Independence Model is 12.935. According to the coefficient of determination (LO 90) of this model, the coefficient of determination (2.811) of the default model, 3.208 in the saturated model, and the coefficient of determination (11.405) of the independence model are all in the positive direction. It is acceptable to have a value of 3.953 according to the HI 90 Model, while the saturation model has a value of 3.208 and the independence model has a value of 14.620, respectively.

Table 18. Model Fit Summary ECVI Results

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.302	2.811	3.953	3.774
Saturated model	3.208	3.208	3.208	4.278
Independence model	12.935	11.405	14.620	13.240

- **HOELTER**

The values for the HOELTER Model are listed in Table 19 given below. The default model has a HOELTER.05 value of 32, while the Independence model has a HOELTER.05 value of 7, respectively. A similar difference exists in the value of HOELTER.01 for the Default Model, which is 36, compared to the number for the Independence Model, which is 7.

Table 19. Model Fit Summary HOELTER Model Results

Model	HOELTER .05	HOELTER .01
Default model	32	36
Independence model	7	7

Conclusions and Recommendations

Conclusions

Taxing polluting waste or waste encourages businesses to look for less expensive ways to control pollution levels, reduce them to desired levels, and treat waste in inefficient ways. This is all to avoid the tax burden imposed if the activity's emissions do not fall below the Standard level. Due to the high tax rate, manufacturing units will look for new technological means to save money, since the invention and implementation of new technology approaches in pollution treatment will reduce the marginal cost of pollution treatment. This report concluded that the environmental tax is an excellent incentive for environmental preservation.

Implications for Policy

The study demonstrated that relying just on environmental fees to minimise environmental pollution is insufficient. Only a comprehensive collection of tools must be activated to combat environmental contamination. Environmental protection should be a top priority for businesses, institutions, and the entire country. Implementing the "polluter pays" principle imposes an environmental penalty on businesses that contribute to environmental pollution. Environmental taxes are a typical method for governments to reduce environmental pollutants and harmful behavior to the biosphere. The most prevalent types of these taxes are polluting automobiles that help promote clean automobiles. Taxation is incorporated into the cost of certain raw materials, such as electricity and energy taxes. Its objective is to both conserve energy and influence consumer behavior. The tax system includes various forms of taxes and tax exemptions in the form of economic incentives, which are one of the most effective financial tools for stimulating market forces to address pollution on a large scale. Lifestyle changes require polluters to pay for the consequences of their harmful acts to the environment, such as smoke from nearby or neighboring locations and trash poured into rivers near these areas. They include medical procedures, cleaning operations, and landfilling in authorised zones.

Recommendations

The study's future recommendations may include how environmental taxes might be used to compel clean energy work at specified percentages; as one of the conditions for establishing new projects. The tax administration must be more efficient and adaptable in its dealings; it must also develop a mechanism for effective communication, transparency, and constructive dialogue between the state, citizens, and any institution imposing a tax, which is critical to the success of environmental reforms. Future research should also add lifestyle changes and how production costs and environmental taxes influence them.

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