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TAX REVENUE AND ITS REDISTRIBUTIVE EFFECTS ON INEQUALITY AND HUMAN DEVELOPMENT

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Abstract
Taxation is a contentious public policy issue. While it is mostly viewed as a means for governments to raise revenue, in recent decades, due to the widening income gaps, tax policy has been intensely debated as both the problem causing inequality and solution to reduce inequality. The main objective is thus to investigate how tax revenue contributes to inequality. Quality of life is employed as a proxy variable, measured by the reduction of income inequality and human capital development. Tax revenues, as independent variables, are categorized into overall tax revenue, personal income tax revenue, and consumption tax revenue. The study is designed as a cross-country quantitative analysis, using dynamic panel data from 2009-2018 with the population of 75 countries. The findings reveal that higher tax revenue does not translate into better quality of life. In fact, higher levels of personal income tax revenue appear to lead to higher income inequality despite its progressive structure. Similar results are found with human capital development for which the findings uncover the adverse relationships with all three types of tax revenues. Also, higher levels of consumption-based tax revenue burdens low-income individuals, resulting in higher inequality and lower human development. Hence, the results suggest that personal income tax progressivity and reliance on consumption-based taxation have undesirable outcomes that have exacerbated income inequality. Therefore, public policy should rely less on income progressivity and consumption-based taxes and focus instead on other aspects of policy implementation and other welfare-improving policies that can tackle the issues more effectively.
Keywords: Tax, Income, Consumption, Inequality, Development

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Introduction

The concept of taxation is as old as human civilizations. Designed and implemented in many different ways, it has long been a controversial issue in both theoretical and pragmatic considerations. In essence, taxation is understood as a means to keep governments running since it remains the most significant source of government revenue in every country. More importantly, tax policy is also one of governments' most effective fiscal tools in resource reallocation and wealth redistribution. However, since the beginning in the 18th century when the notion of capitalism and invisible hand was introduced in the western hemisphere as the guiding principles and facilitators for the industrial revolution, the level of taxes had started decreasing substantially. In his book *Wealth of Nations*, Father of modern economics Smith (2000) penned the founding principles of capitalism which mainly entailed the minimal role of government while promoting free trade and market competition in order to achieve economic prosperity. Over time, modern economic theories dictate the government's role and public policy that governs the economic system based on the concept of capitalism. The role of government and taxation is therefore seen as unnecessary economic interventions that cause market disruptions and inefficiencies, leading to major decreases in tax rates over the years.
Despite its negative association and connotation, taxation remains the largest source of government revenue today. It is directly linked to all major areas of public policy. For instance, monetary and fiscal policy needs to take into consideration the implication and consequences of taxation as it has a direct impact on government revenue and public spending. The theory of income tax progressivity is employed as a fiscal strategy for the readjustment of income gaps and wealth redistribution. Property and inheritance taxes are used to lessen the impacts of social inequity. Consumption-based taxes are also levied to shape the market demand and supply and to alter consumption behaviors. Even with many beneficial qualities, taxation is nevertheless blamed for the staggering income and wealth gaps and other global inequalities. Ample evidence does suggest taxation has indeed caused income inequality to grow drastically over the past few decades.

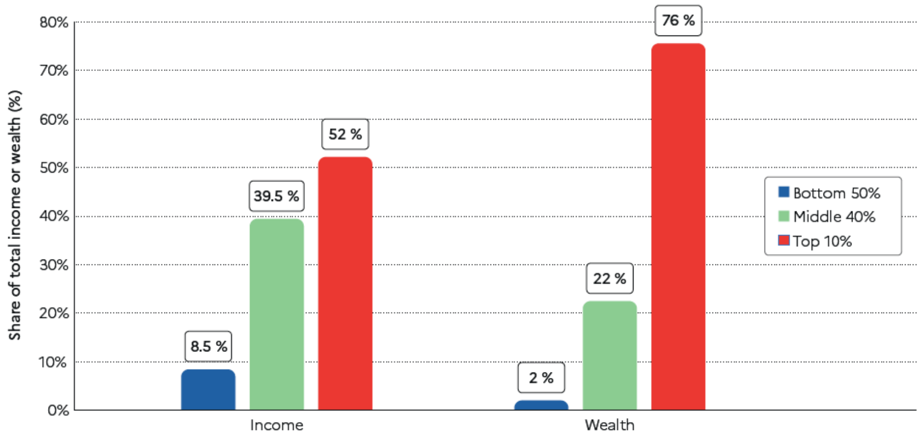

Figure1 Global income and wealth inequality, 2021
Source: Chancel et al. (2022)

Inequality remains at the forefront of human struggles, despite all the human advances and progress. It has become increasingly so for the past half century in which income and wealth inequality have never been more pronounced. The top 10% of the richest population own a disproportionately large percentage of wealth at 76% of all global wealth, whereas half of the entire global population own only 2% (Chancel et al., 2022). This is a disturbing trend considering how national incomes and GDPs in most countries, especially the newly emerging markets, have increased quite impressively. It is a telling sign that something is seriously wrong with our system of economic growth and prosperity, signaling that GDPs tell us very little about the genuine well-being of the people. The average income difference between the richest and the poorest continues to grow until today with the top 10% making 38 times more than the bottom 50% (Chancel et al., 2022). Wealth and capital are also reportedly concentrated only at the top of the income distributions. At the same time, the middle class is slowly disappearing, joining in the bottom income distribution.

This study therefore focuses on the social significance of tax revenue since previous research on taxation is usually conducted with the main interest in macroeconomic factors. The prevalent assumption is that economic growth affects the change in the level of tax revenue, which in turn affects the quality of life. While there is an extensive list of studies with respect to taxation-economic growth relationships and some studies that build upon such relationships to the role of redistribution, such impressive macroeconomic indicators do not appear to be indicative of people's quality of life. In many OECD countries, the average level of disposable income does not increase in proportion with an increase in GDPs especially in the poor households (Causa et al., 2015). In addition, the majority of the previous studies were done using data on OECD countries and rarely on developing countries with emerging economies on a global scale.

Previous literature whose objective was to discover the causes and consequences of inequality did so by primarily investigating the relationship between the level of government expenditure and the redistributive impacts. While public spending is likely to have certain correlations with inequality and human development, the other side of the equation must not be neglected. Tax revenue is equally important since the level of tax revenue and government's tax collectability determine the amount of public funds available for welfare-improving policies. More importantly, the level of tax that citizens are required to pay must have a direct impact on their quality of life since the amount of their disposable income is dependent on it. Based on theoretical considerations, tax structure and tax policy have the behavior-altering power, thereby a direct impact on people's behaviors in saving, investing, and consuming.

Academically and theoretically, the important questions remain. Does income tax progressivity work? Which type of tax is superior: consumption or income taxes? And what are the social welfare improving policies that best complement tax policy? The study aims to find the answers to these questions. Proceeding after the introduction, the second section of this paper briefly examines the theories and past studies regarding taxation, inequality, and development. The third section outlines the rationale and methodology used for the study, while the fourth section provides research findings. The final section includes policy recommendations, research limitations, and potential future areas of research.

Literature Review

Throughout history, taxation appears in many forms for many purposes. While some of the modern taxes seen today are somewhat different from those earliest types of taxes practiced in the old-world order, some remain fairly similar in conception and administration. Historically, one of the very first taxes was tariff or tax on imported goods. These import duties were considered to be among the first in the history of taxation due to the convenience and ease of collection and administration. Head and land taxes, most probably equivalent to personal income and property taxes today, were the first direct taxes ever created. Over the centuries, the concept of taxation has gradually and systematically expanded to include various obligatory taxes. As each country developed, taxation became a vital source of revenue and a way to exert political power for the ruling class. In modern days, taxation, collected in cash, is considered a fiscal mechanism whose authorization is embedded under the governing structure of each country. Its main purposes are to secure government revenue, promote economic stability, and create social equity.

Having evolved over the past 50 years, tax policy in the 21st century is even more complex than ever before. Moving away from land/head taxes, personal income and payroll taxes have become a major source of government revenue in many developed countries such as in Australia and the US. Personal income and payroll taxes are widely used today under the progressive tax structures for redistributive purposes. However, even though personal income and payroll taxes have been a staple for government revenue, commodity taxes have obtained a prominent role, gradually taking over personal income tax as the largest source of government revenue.

In recent decades, taxation, as part of fiscal plans and policies, has been extensively employed for development purposes. In this regard, development economics concerns the ways national and international economies impact a country's development in terms of both economic and social aspects (Todaro & Smith, 2015). The focus is also to overcome basic human rights issues such as poverty and hunger. The study of development or social economics has expanded over the half past century with the purpose of finding solutions to countless problems such as what real development is or how economic progress infers development. The conventional measures of development have always been the indicators specific to economic growth such as the rates of growth of gross national income (GNI) and gross domestic product (GDP).

After World War II, the concept of development and growth has taken another turn. The postcolonial era after the 1950s and 1960s introduced a new market economy that lifted many poor countries out of poverty. Although world poverty has substantially reduced, the rate of poverty reduction is still far behind that of economic growth, raising questions on the correlation between two indicators. Absolute poverty still exists, as well as increasing unemployment and gaps in income distribution. Seers (1970), a British economist specialized in development economics, challenged the traditional meaning of development, asserting that true development must provide better quality of life, better employment opportunities, and more even income distribution. In this sense, development must mean more than economic indicators. Development is a multidimensional process that encompasses progress and changes in economic and social structures, institutional quality, lesser extent of wealth inequality, and poverty eradication.

Sen (2000), the great philosopher of modern times and a Nobel laureate in economics, is perhaps the most influential thinker in defining development and what it means for a country to be truly developed. In his book *Development as Freedom*, he emphasized the process of expanding human capabilities and freedom, by which true development can take place. His capability approach encapsulates what it means for humans to be happy and free. Freedom, in his view, is not the end of development, but the means to development. As such, Sen argued that the growth of production and consumption, while valued by economic standards, must lead to human welfare and freedom. Poverty, under this development concept, cannot be measured by indicators and utilities. Therefore, Sen's capability approach refers to "the freedom that a person has in terms of the choice of functioning, given his personal features and his command over commodities." With this understanding, a capable human being must be healthy, educated, well-clothed, and long-lived.

Theories of development economics, past and present, all aim at eradicating poverty and elevating humans' well-being. However, economic outcomes and prosperity do not always translate into a better quality of life for all, especially the poor, but the so-called development and progress tend to benefit those at the top much more pronouncedly. This proves that the conventional economic indicators are by no means the true evidence of real development. Summing up, gross domestic outputs of all citizens does not mean everyone in society is receiving their fair share of the pie.

Income inequality refers to the disproportionate or uneven distribution of national income among individuals and households. Accordingly, economists measure income inequality by using "the personal or size distribution of income and the distributive factor share distribution of income" (Todaro & Smith, 2015). An inequality index often used in development and inequality studies is the Lorenz curve (see Figure 2) and Gini coefficients. According to the The World Bank (2018b), "Gini coefficients measure the extent to which the income distribution among individuals or households within an economy deviates from a perfectly equal distribution." In other words, Gini coefficients are aggregated indicators for inequality, ranging from 0 to 1 or perfect equality to perfect inequality. When the income of the entire population is even distributed, the line will be straight indicating perfect equality. Most countries which have uneven income distribution would score somewhere around 0.5-0.8, while those with more even income distribution ranges between 0.2-0.4.

There is a theoretical debate whether or not taxes can help countries achieve the goal of equity. Certain tax theories strongly oppose excessive taxation stating that implementing tax policy as a means to redistribute wealth is not only ineffective, but rather unethical and that is not based on any economic rationale (Altman, 2000). In addition, taxation causes market disruptions that lead to inefficient production which in the long run will negatively impact wages, employment, and overall economic welfare (Okun, Fellner & Wachter, 1975). Nevertheless, one of earliest theories on taxes and redistribution states that tax structures affect social welfare and thus income distribution (Musgrave, 1959). When analyzed and used appropriately, corporate taxes also have an impact on the reallocation of resources (Harberger, 1962). Furthermore, a tax mix between personal income and consumption taxes appears to have the redistributive benefits (Cremer et al., 2001). However, Atkinson & Stiglitz (1976) disagree, claiming that equity can be succeeded by income tax alone and that consumption or sales tax is not necessary. By eliminating the differential commodity taxation, along with correcting the individual tax liabilities and provisions of personal income taxation, social and economic welfare of citizens can be improved without interfering with the constraints of market incentives or government revenue (Gauthier & Laroque, 2009; Kaplow, 2006; Laroque, 2005; Konishi, 1995).

In addition to the theoretical discussion, a number of empirical studies on income inequality and income distribution have also demonstrated the significant correlations between the two variables, although many of the findings result in the contrasting outcomes and conclusions. For instance, following the economic reforms guided by the World Bank and IMF in the 1980s and 1990s, developing countries experienced a surge in income gaps between the rich and the poor. Tax reforms of the 1990s shifted the tax burden from the rich to middle to lower income population groups (Morley, 2000). A study by Cornia (2010) discovered a similar trend, which was a decline in the ratio of direct and indirect taxes and an increase in the Gini coefficient. Although previous studies have produced somewhat mixed results, a large number of scholars believe that indirect taxes tend to increase income inequality as lower-income households tend to spend a bigger share of their earned income on indirect taxes, as opposed to higher-income households. It is then believed that indirect taxes cannot be used to promote income equality. On the contrary, income equality can be acquired through two main mechanisms: progressive taxation and tax credits (negative tax rates for low-income households). The progressive tax and tax-credit policies are employed in order to push the post-tax income of both the upper and lower-income households towards the median-income to decrease inequality (Diamond & Saez, 2011).

More recently, a study conducted by Iosifidi & Mylonidis (2017) found that tax mix has a more significant impact for redistributive incidence than a single isolating tax rate. In contrast to Atkinson and Stiglitz's claim, they found that relying on personal income tax, relative to corporate tax, leads to higher income inequality. In addition, if the tax burden is more heavily shifted to consumption taxes, income inequality problem will exacerbate. In their findings, using the redistributive channel through labor taxation such as social security contributions actually decreased income inequality. A study by García-Peñalosa & Turnovsky (2011) also found that changes in tax structures have a significant impact on income distribution.

Research Methodology

This study is a cross-country quantitative study using a panel data analysis from 2009-2018. The unit of analysis is country level with a population of 75 countries. Based on the World Bank database, the countries are chosen according to their availability, reliability, verifiability, and completeness.

As the nature of dynamic panel data presents a few common issues, it is recommended that four diagnostic tests should first be performed in order to understand the characteristics of the data, in turn providing the rationale for the selection of the most appropriate model specification (Hurlin, 2018; Baum, 2013; Park, 2011). The diagnostic tests include the test for normality, test for multicollinearity, test for heteroskedasticity, and test for serial correlation or autocorrelation.

Since the inherent nature of the dynamic panel data in this study may present a few problems including serial correlation, endogeneity, and unobserved heterogeneity, standard estimation techniques for multiple regression such as Ordinary Least Squares (OLS) may not be the best choice. Instrumental Variables (IVs) Approach is therefore recommended (Labra & Torrecillas, 2018). The IV approach is deemed suitable for dynamic panel data (Pokropek, 2016; Baum, Schaffer & Stillman, 2003; Angrist & Krueger, 2001) and can be used to control the endogeneity or the confounding effects created by omitted variable(s) among observations in the variables (Wooldridge, 2002). Two of the most widely used statistical techniques that employ instrumental variables are Two-stage Least Squares (2SLS) and System Generalized Method of Moments (System GMM). The main difference between the two estimation models is that 2SLS employs external instrumental variables, while System GMM uses lagged dependent variables as instrumental variables in the estimations (Roodman, 2009; Drukker, 2008). However, although both models may be used to deal with an endogeneity problem, 2SLS is more efficient under the homoscedastic condition (Roodman, 2009; Baum, Schaffer & Stillman, 2003). Under the heteroskedastic condition, System GMM would be a better fit because it employs the orthogonality conditions in the process of estimation in case of heteroskedasticity. In addition, dynamic panel data often has to deal with short and long-term impacts of the changes of the independent variables, creating the issue of autocorrelation. Using lagged dependent variables should be able to better capture the autocorrelation between observations of the same units at different points in time. Therefore, System GMM is a more suitable model.

Table 1 Variables and Data Sources

Variable	Data Source
Tax Revenue as % of GDP (taxrev)	World Development Indicators (WDI), (The World Bank, 2018a)
Income Tax as % of total revenue (inctax)	World Development Indicators (WDI), (The World Bank, 2018a)
Consumption Tax as % of total revenue (constax)	World Development Indicators (WDI), (The World Bank, 2018a)
Income Inequality (gini)	The Standardized World Income Inequality Database (SWIID) Versions 8-9, 2020 (Solt, 2020)
Human Development Index (hdi)	The 2020 Human Development Report, (United Nations Development Programme, 2020)

(1) $gini_{it} = \alpha\, gini_{i,t-1} + \beta_1 taxrev_{it} + \beta_2 inctax_{it} + \beta_3 constax_{it} + \varepsilon_{it}$

(2) $hdi_{it} = \alpha\, hdi_{i,t-1} + \beta_1 taxrev_{it} + \beta_2 inctax_{it} + \beta_3 constax_{it} + \varepsilon_{it}$

$\varepsilon_{it} = \mu_i + \upsilon_{it}$

Where:

$taxrev_{it}$	=	Tax Revenue as percentage of GDP of i (country) in t (period of time)
$inctax_{it}$	=	Income Tax as percentage of total revenue of i (country) in t (period of time)
$constax_{it}$	=	Consumption Tax as percentage of total revenue of i (country) in t (period of time)
$gini_{it}$	=	Income Inequality of i (country) in t (period of time)
hdi_{it}	=	Human Capital Index of i (country) in t (period of time)

Research Findings

The overall tax revenue is found to have no significant relationship with income inequality, while income tax and consumption tax do. With a positive significant relationship, higher income tax revenue actually leads to higher income inequality. This indicates that the reliance on personal income tax is a possible contributing factor to higher income inequality. By collecting more income tax, the taxpayers, presumably lower-middle and low-income individuals, most likely become worse off than before.

Table 2 Effects of Tax Revenues on Income Inequality and Human Capital Development

Quality of Life	Income Inequality	Human Capital Development
L1	**0.938*** (0.0211)**	**0.9804*** (0.0111)**
Tax Revenue (as % of GDP)	-0.0032 (0.0065)	**-0.0002*** (0.00004)**
Income Tax (as % of total revenue)	**0.0176** (0.0086)**	**-0.0002*** (0.00007)**
Consumption Tax (as % of total revenue)	**-0.0227* (0.0124)**	**-0.0002** (0.00006)**
Constant	2.5353 (0.8338)	0.0322 (0.0083)
No. Observations	603	661
Instruments/Groups	48/74	48/75
AR(1) p-value	0.0033	0.0018
AR(2) p-value	0.0659	0.4761

Note: Standard errors in parentheses
Significance level: ***p < 0.01, **p < 0.05, *p < 0.1

In terms of human development, in order for governments to increase public investments in education, healthcare, and standard of living, which are basic necessities for human capital development, more tax revenue is required. However, all the significant relationships found between all types of tax revenues and human capital index turn out to be negative. This suggests that the higher the tax revenue, the lower the level of human capital index, which directly contradicts the conventional notion under which more government spending should translate into higher human capital development. The results from both income inequality and human development index suggest the same trends, corroborating the study's statistical robustness.

Conclusion & Discussion

The Case Against Income Tax Progressivity

Conventional welfare economic theories, governments, and international organizations all advocate for income progressivity as a means to reduce income gaps since taking more money from the rich theoretically should equalize the income distributions among income earners and taxpayers. The positive relationship between income tax revenue and income inequality coincides with some of the recent studies on this topic that found the government's reliance on personal income taxation to be more burdensome than wholesome for an average income earner (Iosifidi & Mylonidis, 2017), which leads to a higher level of income inequality. Similar results are found with human capital development. While development theory postulates that a higher level of tax revenue would provide resources for government programs that elevate quality of life such as education and healthcare which are key to human capital development, the findings reveal the adverse relationships with all three types of tax revenues. The simplest rationale that may be offered is that the overall tax revenue and income tax revenue are used in ways that increase income inequality and diminish human capital development. While the collected tax revenue is not being put into good use, the high amount of tax revenue required of citizens makes them worse off than their pre-tax financial standing, leaving income inequality growing and human capital underdeveloped. In this sense, the more revenue the government requires of its citizens and when the revenue is not being directed to improving the quality of life, the worse off the citizens would be.

A progressive tax system would leave income earners, particularly those of middle- and low-income groups, worse off than before for several reasons. The higher tax rates might unintentionally widen income distribution and diminish human capital development leaving income earners with less disposable income. In addition, taxing income at an increasing rate can create the income effect by which the reduction in income changes consumption patterns, resulting in lower levels of both income tax and consumption tax revenues. This income redistribution, triggered by the progressive tax system, would influence the demands for all kinds of goods and services, in turn affecting demand and supply of labor and resources. Over time, this chain of events interferes with the market causing inefficiencies and possible future market failures. Moreover, the income tax progressivity does not always agree with the nature of capitalistic market conditions in which income earnings may not equate nor increase proportionately with market inflations for consumable goods and services. Most importantly, and most relevant to this study, the rich usually ride above or even benefit from the progressivity of personal income tax scheme. Ample evidence demonstrates how little the rich pay personal income taxes, using tax loopholes to avoid and evade taxes.

Personal income tax progressivity clearly does not benefit an average citizen since the higher the personal income tax revenue, the higher the income inequality. This ever-increasing gap in income distribution contributes to the issue of shrinking middle class - a phenomenon that plagues many of the countries, especially the industrially advanced countries such as the US or Japan. This is because the majority of the middle-class population are registered employees in formal sectors in the economy, they are legally obliged by personal income tax rates. As a result, income tax revenue mainly relies on this band of workers on a formal payroll for the funding of government programs and other expenditures, while the rich and ultra-rich, since they are not on regular payrolls, have myriad ways in avoiding and evading tax obligations. All things considered, tax progressivity might not be the ideal solution to closing the income gaps and achieving wealth redistribution after all.

The Fiscal Choice: Income Tax or Consumption Tax

The choice between income and consumption taxes has long been a contentious issue for tax theorists and policy makers worldwide, both for the source of government revenue and whether or not they can be used for redistributive purposes. As the case of income tax progressivity is previously discussed, personal income taxation might not be the most effective tool in dealing with wealth redistribution. However, this does not automatically mean that consumption taxation is always superior.

The system of personal income taxation demands efficient, practical, transparent, and corruption-free tax codes and administrative structure which is, even in highly developed and democratic countries, not an easy feat. On a free market basis, personal income tax progressivity would interfere with market efficiency, in turn disrupting market equilibrium, creating market distortions, and ultimately affecting demand and supply for goods and services. As such, consumption-based taxation appears more preferable. Consumption-related taxes are based on one's ability to spend, rather than ability to pay. This may explain why most governments make a policy decision to rely more on consumption than personal income taxes. The ability-to-spend principle is more accurate in measuring an individual's ability to pay over a lifetime, leading to a more equal society in the long run. However, taxing consumption behaviors is also a controversial issue since the nature of consumption-related taxes tends to be regressive. The theory of tax incidence asserts that tax burdens are almost always shifted forward onto consumers, particularly the low-income individuals since the consumption spending accounts for a larger share of their disposable income than that of high-income individuals. Because of this, consumption taxes are mostly borne by the poor who have the smallest room for market adjustments, making it impossible for them to break the cycle of poverty. This sentiment is supported by this study's findings in which tax revenues are proved to be an ineffective means in elevating the quality of life.

From the findings, even when tax revenue is high and presumably being put to good use, quality of life does not correspond accordingly. This may possibly be due to other variables obstructing or obscuring the real outcomes of the government's redistributive programs. For instance, the rates of wages and savings, and the disposable income have not increased as quickly as price inflations on consumable goods and services. In many countries, workers' productivity has increased substantially since the 1960s due to better technology and better workers' skills, but real wages have not increased as much (Mishel et al., 2015). This train of analysis shows that progressive income taxation and the reliance on consumption-related taxes have a negative impact on income inequality and human developments.

Based on the study's results, the higher level of tax revenue does not mean the tax money being channeled for redistributive purposes. Therefore, in order to gear the two most commonly used types of taxation toward more uniformly wealth redistribution, we must look beyond these two types of tax reliance if we are to achieve the desired redistributive goals.

Tax Policy

Conventionally, tax policy is derived from tax structure dictated by tax theories and supposedly designed according to the campaign promises of the elected government. There is no doubt then that tax policy is a political choice. The study's findings suggest that income progressivity is not effective in reducing income inequality and improving human development. Hence, tax policy should no longer focus only on the progressivity of personal income taxation. There are other components of a progressive tax system that should be paid more attention to including personal deductions or exemptions. Other types of taxation should also be simultaneously implemented to ensure fairness and equity. In addition, the results show that as most countries lean toward the reliance on consumption-based taxation as a main source of government revenue, income inequality and human development have not improved. It is time then that governments should place less dependence on consumption taxes, but instead more emphasis on other types of taxes that can truly achieve redistributive goals such as business operation and corporate taxes, and social security contributions.

Lack of or ineffective implementation of wealth-related taxes could also be the contributing factor in the increasing wealth inequality. In theory, wealth-related taxes can be used to determine an individual's consumption patterns over time and his ability to pay. Hence, taxing wealth would serve as well as taxing consumption for an average income earner. However, the nonexistence of wealth-related taxes in most countries outweighs the benefits that could be derived from income tax progressivity because the rich usually find their way out of the progressive tax system.

Taxes on capital income, especially unrealized capital gains, should also be used for several reasons. Based on economic considerations, taxing capital can be beneficial when the designated capital is old and can no longer produce any deadweight loss within the system (Chamley, 1986; Judd, 1985). Furthermore, while some may advocate for a tax system that promotes savings and investment (which means capital gains should not be taxed for the purpose of saving and investment), an individual with a median income or a family with median household income would not be affected by this tax policy because the proportion of their savings and investment is unlikely to be large enough to be taxed. In this case, the unrealized capital gains should very well be taxed. This will also provide a solution to the tax avoidance loophole because the preferential treatment of capital gains is an infamously popular form of tax shelter for the ultrawealthy. Marginal income taxation should also be introduced as part of a tax policy. The low marginal tax rates outweigh the supposed benefits of tax progressivity. In practice, imposing a marginal tax rate can be beneficial if the other types of tax rates, notably corporate taxes, do not deviate much from the marginal tax rate.

Corrective taxation or taxes on externalities should also be mandated as part of the tax policy. This type of tax, while already existing to various degrees in some parts of the world, is neither seriously implemented nor considered despite its abilities to tax the real inflictors and to curb the unwanted environmental byproducts and damages caused by specific parties and large conglomerates. This tax should be implemented more intensely since, in addition to preventing environmental damage, it encourages social responsibilities in the form of financial returns and discourages excessive consumptions. Furthermore, this tax can help shift the tax burden borne by the less well-off group in the population onto ones that are more directly accountable.

Finally, alternative bases of taxation should be considered, instead of direct utilization of tax policy. Implementing other complementary policies can compensate for the negative impacts and offer long-term outcomes that meet the redistributive goals. Those include employment-related and social welfare policies, for instance minimum wage, rent and price controls, childcare and healthcare tax credit, or negative earned income tax credit (EITC). Based on economic considerations, these policies can help correct market distortions because they can encourage greater consumption and saving, inching us closer to more even income distribution. Not allowing these policies to be implemented or not seriously and effectively implemented complementarily with tax policy would inevitably render tax policy useless and irrelevant.

Welfare-Improving Policy

Policy with regards to social welfare is fundamental to the development of human capital which will ultimately and sustainably lead to long-term economic growth and prosperity for all within society. One of the most essential employee-centric policies concerns labor law and employment benefits. The income effect must be considered, as well as employment and growth effects. Price controls are another effective redistributive strategy that can be used to minimize the financial struggles the poor are facing on a daily basis from the free market economy. Even though conventional economics may contend that price controls are a form of market intervention that disrupts the economy, it is vital to emphasize that prices and wages no longer correspond with the societal demand and supply due to the abused capitalistic nature of today's economy. Although a market economy dictates prices and wages which are systematically determined by demand and supply, the current state leaves the price determination in the hands of the system that is neither fair nor truly free. The economic system based on capitalistic philosophy nowadays would only exacerbate the wealth gaps and inequality problem. Hence, governments can and should engage in direct control of prices through various means including regulating the minimum and maximum of prices, most notably, minimum wage. Price controls on essential goods and services such as healthcare expenses can have great welfare-improving benefits as well.

Because cash salary is not always the only component of the employment package to be considered, employees should be entitled to the employment benefits that offer economic protection and job security. The benefits can include for instance medical insurance, travel allowance, transportation allowance, paid maternity or paternity leave, and childcare expenses. Many of these benefits are still surprisingly not mandated by labor law in many countries including the developed ones, despite them being tax exempted or deductible and thus having the ability to relieve the tax burdens and improve the welfare of the recipients.

Another employment-related policy that can be beneficial to the changing landscape of the global economy today is upskilling or reskilling of the workforce. The free movement of capital and labor in the newly integrated regional and global economy poses a new form of threat to domestic labor who might find themselves inflexible to adjust, to let go of traditional industries, or to keep up with new technology and industries. When access to conventional education is lacking or unattainable, government programs focusing on specific needs and skills can be tremendously helpful in the upskilling and reskilling of the workforce, especially in the developing countries in which the large segment of population is highly susceptible to changes in employment and wage. The upskilling and reskilling government programs can produce the positive impacts on the domestic workforce and entire industry in the present and future.

In-kind transfers are another welfare-enhancing strategy that can be extremely useful since they provide redistribution channels through goods and services, rather than through a transfer system of taxation. In-kind transfers include for instance public housing, school lunches, public transportation, or food stamps. This type of social welfare policy has the most precision in truly targeting those in need because, for example, free government housing would only be utilized by the people who need them. Additionally, conditional and unconditional cash transfers could be a means of equalizing opportunities. Even though cash transfers are never a popular redistributive strategy among the public, especially among the well-off members of society, any policies aiming at improving social welfare of the less fortunate are rarely popular anyway. As such, it is only appropriate that income redistribution policy should be instituted in the form of cash transfers or guaranteed universal income, which has the ability to directly increase the productivity and capacity of the targeted population. From the economic point of view, this kind of income transfers has the ability to elevate the level of economic welfare of the recipients beyond its dollar value due to the marginal utility derived by the recipients being greater than the real monetary value of the income transfer (Altman, 2000). As a consequence, using this kind of income redistribution policy concurrently with progressive tax system may alleviate the income effects imposed on the lower-income individuals and households, thereby narrowing the income gaps created by the progressive tax policy.

Designing a Tax System

A good well-balanced tax system must do more than raising revenue for the government. First, because the higher level of tax revenue does not lead to higher quality of life, the quality of domestic institutions may be the culprit. A tax system must therefore be based on good governance and structured in a way that ensures the rule of law, transparency, accountability, social equity, inclusivity, citizen empowerment, public responsiveness, and public participation. In addition, since it is virtually impossible for a tax system to please or benefit every single person in society, a tax system must weigh between one inequity goal against another. The foundation of a tax system is also the trade-off between efficiency and equity. But as the results of this study indicate, more wealth does not translate into a more equitable society and narrower income gaps. It seems obvious then that using solely economic concepts to determine tax bases and structures might not be a successful strategy.

Another daunting choice facing tax system design is whether to enact tax credit or tax deduction and at what degree and what combination. Tax deductions are viewed as a means for the rich to avoid paying their due taxes, while tax credits on childcare or education have greater benefits for the general public as they offer lifetime opportunities, particularly for higher education, which can have more lasting redistributive impacts on the population at large. Thus, tax credits are more preferable and more efficient. Nevertheless, a combination of both tax deduction and tax credit should be considered depending on the nature of public goods and benefits.

A tax system today should also consider the role of the informal sector. In many of the developing countries, an informal sector consisting of unregistered businesses and workers accounts for a large portion of the overall economic productivity and output. Many informal businesses hire workers that are unaccounted for; as a result, they are under no legal obligation to provide minimum wage, hospitable working environment, and other employment benefits to the workers. For these reasons, a tax system must be designed with these issues in mind and must attempt to capture the real contributions made by all in society.

Tax Avoidance and Tax Evasion

One of the most difficult tasks in designing a tax system and implementing a tax policy is to prevent tax avoidance and tax evasion. With little help from tax experts and accountants, there are myriad ways for individuals to avoid paying their fair share of taxes. The richer, the easier. Even when the tax system is designed to be progressive, the benefits of tax progressivity are outweighed by various tax exemptions and deductibility. In reality, the effective rate of income tax progressivity is much lower than the statutory rate. The ultrawealthy are notoriously known for avoiding paying taxes. The tax strategy of how the rich live their lavish lifestyle -- buy, borrow, die -- has continued to infuriate the public who comply with the tax laws. This issue can be mitigated by reducing tax deductions, exemptions, and tax brackets, and limiting the amount of deductibility on capital losses in a specific period of time. The deductibility should not be allowed to be carried forward as well (Tanzi & Zee, 2000). If the tax structure is impossible to be effectively or pragmatically restructured, tax credits or earned income tax credit should then be instituted to help offset those who have been made worse off by the existing progressive tax rates.

Especially in developing countries, taxes on capital gains or dividends are almost nonexistent, particularly the unrealized capital gains in the forms of dividends and assets. In addition to paying themselves very little or zero-base salary in order to stay in the low-income tax bracket, the ultrawealthy are able to avoid income taxes by building or transferring wealth into the unrealized profits which carry monetary values that can be used as collateral for loans. One way to prevent this is to tax the return to savings which include interests, dividends, and capital gains. This cashless wealth should be included in personal income taxation.

Tax incentives and tax holidays are also popular policies to attract foreign businesses and investments. These reduced tax rates or exemptions are major pathways for tax avoidance and tax evasion. The government must keep in mind that the institutional quality of the country is actually proven to be a more critical element in the decision-making process. While tax incentives seem an attractive offer, a number of deciding factors exist, including for instance political and economic stability, the legal and regulatory system, government transparency, financial system, infrastructure, natural resources, and workforce skills.

Limitations & Future Research

One possible issue that is inherent to any time-series or panel study is the lagging effect. The panel study may not capture the true long-term impacts created by the policy of interest. A span of 10 years might not be sufficient for the policy to produce concrete results. Policy outcomes, especially the long-term ones can be difficult to recognize, measure, and evaluate. Often times, the benchmark used for policy evaluation can be obsolete by the time the real impacts occur. Furthermore, certain variables are based on aggregated data that compose various elements that are not possible to extract or examine individually. For instance, consumption tax revenue is composed of a number of consumption-related tax revenues that have been collected and aggregated annually. As such, there may be other unforeseen variables and changes that can interfere with the policy outcomes such as political disruptions.

The academic investigation into inequality and human development involves a variety of circumstances and factors. Likewise, taxation encompasses many façades and dimensions that require much attention to detail. Institutional factors such as the democracy level and incidence of corruption can be further studied if more discernable causes and effects were to be identified. Building upon this foundation, the investigations by regions or clusters of countries with similar political and economic backgrounds may also prove fruitful since most economic integrations begin regionally. Finally, this study adds to a sizable body of advocacy demanding a new way of measuring wealth, prosperity, and social welfare due to the irrelevancy of macro-economic factors. The world needs a new method of measurement that can capture the true extent of human welfare and quality of life.

References

Altman, M. (2000). A Behavioral Theory of Economic Welfare and Economic Justice: A Smithian Alternative to Pareto Optimality. *International Journal of Social Economics, 27*(11), 1098-1131.

Angrist, J., & Krueger, A. (2001). Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments. *Journal of Economic Perspectives, 15*(4), 69-85.

Atkinson, A., & Stiglitz, J. (1976). The design of tax structure: direct versus indirect taxation. *Journal of public Economics, 6*(1-2), 55-75.

Baum, C. (2013). *Implementing new econometric tools in Stata*. Retrieved from http://fmwww.bc.edu/repec/msug2013/mxsug_baum.pdf.

Baum, C., Schaffer, M., & Stillman, S. (2003). Instrumental variables and GMM: Estimation and testing. *The Stata Journal, 3*(1), 1-31.

Causa, O., de Serres, A., & Ruiz, N. (2015). *Can Pro-growth Policies Lift all Boats?*. Retrieved from www.proquest.com/openview/4dbaf0b25b49fe5291ba5c804807f714/1?pq-origsite=gscholar&cbl=54478.

Chamley, C. (1986). Optimal taxation of capital income in general equilibrium with infinite lives. *Econometrica: Journal of the Econometric Society, 54*(3), 607-622.

Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2022). *World Inequality Report 2022*. Paris: World Inequality Lab.

Cornia, G. (2010). Income Distribution under Latin America's New Left Regimes. *Journal of Human Development and Capabilities, 11*(1), 85-114.

Cremer, H., Pestieau, P., & Rochet, J. (2001). Direct versus indirect taxation: the design of the tax structure revisited. *International Economic Review, 42*(3), 781-800.

Diamond, P., & Saez, E. (2011). The case for a progressive tax: from basic research to policy recommendations. *Journal of Economic Perspectives, 25*(4), 165-190.

Drukker, D. (2008). *Econometric analysis of dynamic panel-data models using Stata*. Retrieved from www.stata.com/meeting/snasug08/drukker_xtdpd.pdf.

García-Peñalosa, C., & Turnovsky, S. (2011). Taxation and income distribution dynamics in a neoclassical growth model. *Journal of Money, Credit and Banking, 43*(8), 1543-1577.

Gauthier, S., & Laroque, G. (2009). Separability and public finance. *Journal of Public Economics, 93*(11-12), 1168-1174.

Harberger, A. (1962). The incidence of the corporation income tax. *Journal of Political economy, 70*(3), 215-240.

Hurlin, C. (2018). *Panel Data Econometrics*. Retrieved from https://sites.google.com/view/christophe-hurlin/teaching-resources/panel-data-econometrics#h.p_v3oDdRFBmeb2.

Iosifidi, M., & Mylonidis, N. (2017). Relative effective taxation and income inequality: Evidence from OECD countries. *Journal of European Social Policy, 27*(1), 57-76.

Judd, K. (1985). Redistributive taxation in a simple perfect foresight model. *Journal of public Economics, 28*(1), 59-83.

Kaplow, L. (2006). On the undesirability of commodity taxation even when income taxation is not optimal. *Journal of Public Economics, 90*(6-7), 1235-1250.

Konishi, H. (1995). A Pareto-improving commodity tax reform under a smooth nonlinear income tax. *Journal of Public Economics, 56*(3), 413-446.

Laroque, G. (2005). Indirect taxation is superfluous under separability and taste homogeneity: a simple proof. *Economics Letters, 87*(1), 141-144.

Labra, R., & Torrecillas, C. (2018). Estimating dynamic Panel data. A practical approach to perform long panels. *Revista Colombiana de Estadística, 41*(1), 31-52.

Mishel, L., Gould, E., & Bivens, J. (2015). *Wage Stagnation in Nine Charts*. Retrieved from https://termadiary.org/wp-content/uploads/2017/05/wage-stagnation-in-nine-charts.pdf.

Morley, S. (2000). The effects of growth and economic reform on income distribution in Latin America. *Cepal Review, 71*, 23-40.

Musgrave, R. (1959). Taxes and the Budget. *Challenge, 8*(2), 18-22.

Okun, A., Fellner, W., & Wachter, M. (1975). Inflation: Its mechanics and welfare costs. *Brookings Papers on Economic Activity, 1975*(2), 351-401.

Park, H. (2011). *Practical guides to panel data modeling: a step-by-step analysis using Stata*. Retrieved from www.iuj.ac.jp/faculty/kucc625/method/panel/panel_iuj.pdf.

Pokropek, A. (2016). Introduction to instrumental variables and their application to large-scale assessment data. *Large-scale Assessments in Education, 4*(4), 1-20.

Roodman, D. (2009). How to do xtabond2: an introduction to difference and system GMM in Stata. *The Stata Journal, 9*(1), 86-136.

Seers, D. (1970). The meaning of development. *Revista Brasileira de Economía, 24*(3), 29-50.

Sen, A. (2000). *Development as freedom*. New York: Anchor Books.

Smith, A. (2000). *The wealth of nations: An inquiry into the nature and causes*. London: Random House, Inc.

Solt, F. (2020). Measuring Income Inequality Across Countries and Over Time: The Standardized World Income Inequality Database. *Social Science Quarterly, 101*(3), 1183-1199.

Tanzi, V., & Zee, H. (2000). Tax policy for emerging markets: developing countries. *National tax journal, 53*(2), 299-322.

The World Bank. (2018a). *Tax revenues*. Retrieved from https://databank.worldbank.org/source/world-development-indicators.

The World Bank. (2018b). *World Bank Annual Report 2018*. Retrieved from https://documents1.worldbank.org/curated/en/630671538158537244/pdf/The-World-Bank-Annual-Report-2018.pdf.

Todaro, M., & Smith, S. (2015). *Economic Development*. 12th ed. London: Pearson Education, Inc.

United Nations Development Programme. (2020). *Human Development Report 2020: The Next Frontier*. Retrieved from https://hdr.undp.org/content/human-development-report-2020.

Wooldridge, J. (2002). *Econometric analysis of cross section and panel data*. 2nd ed. Massachusetts: The MIT press.

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