Assessing the Influence of Income Tax Policies on Diminishing Monetary Disparities

Muhammad Jhanzaib
University of Punjab Lahore
* **Correspondence**: Jhanzaib.19@gmail.com

Citation | Jhanzaib. M, "Assessing the Influence of Income Tax Policies on Diminishing Monetary Disparities", MCCSS, Vol. 1, Issue. 4, pp. 156-166, Nov 2022
Received | Oct 02, 2022**; Revised |** Oct 18, 2022**; Accepted |** Oct 26, 2022; **Published |** Nov 04, 2022.

This study assesses the impact of income and sales tax policies on welfare enhancement and inequality reduction in Pakistan. It delves into the intricate interplay between tax structures, economic welfare, and societal equality within the Pakistani context. Employing two distinct simulation models including Simulation-I and Simulation-II, the research rigorously assesses the ramifications of altered tax policies on household welfare, inequality, poverty rates, and economic sectors. Comprehensive data spanning diverse rural and urban household segments was collected and analyzed, encompassing income, expenditure, trade statistics, and welfare indicators. Through Theil Indices, compensatory variation analysis, and trade assessments, the research investigates the nuanced effects of income tax policies on household disparities. Findings reveal substantial variations in household welfare across distinct categories in response to varying magnitudes of tax policy alterations. The study not only highlights the differential impact on rural and urban sectors but also delineates trade patterns and economic activity changes consequent to these policy adjustments. Moreover, limitations and ethical considerations concerning data constraints and privacy are addressed. By scrutinizing income and sales tax models, this research endeavors to provide insights into potential improvements for policy-makers to enhance welfare and mitigate inequality in Pakistan's socio-economic landscape.

Abbreviations
Gross Domestic Product (GDP)
Social Accounting Matrix (SAM)
Value Added Tax (VAT)
Autoregressive Distributed Lag (ARDL)
Computable General Equilibrium (CGE)

Keywords: Simulation Models, Welfare Enhancement, Substantial Variations.

Introduction:

In the pursuit of economic stability and social equity, the evaluation of Income Tax Policies holds paramount significance. The intricate relationship between income tax structures and the reduction of monetary inequality serves as a critical focal point in economic discourse. Within this context, examining the impact of income tax policies on narrowing the monetary gap within societies becomes an essential endeavor. This introduction sets the stage for understanding the pivotal role that income tax policies play in shaping the distribution of wealth and fostering a more equitable financial landscape. Specifically, this exploration concentrates on elucidating the nuanced effects of these policies on diminishing monetary inequality, aiming to unravel their implications in creating a fairer economic framework [1].

Sustainable development encompasses economic, environmental, and crucially, social sustainability, achieved by eradicating poverty, reducing inequality, and ensuring equitable

opportunities. Worldwide, the escalating economic disparities stand as a universally acknowledged global challenge. The advent of digitization significantly impacts human capital and territorial development rates, exacerbating inequality among regions. Consequently, curbing economic inequality stands as a pivotal objective for sustainable development. Tax systems vary across nations, shaped by socioeconomic development and legal traditions. Most countries prioritize income redistribution through taxation [1].

Trade barriers exert substantial influence on multiple dimensions of a nation's economy, encompassing trade dynamics, income distribution disparities, consumption behaviors, production levels, societal well-being, and poverty rates. The existence of a price discrepancy between domestic and overseas markets gives rise to a barrier, leading to a change in consumer demand for domestically manufactured goods. conducted evaluations that highlight the significant potential advantages associated with the removal of trade barriers, as evidenced by recent work. The implementation of trade barrier reduction policy displays variability contingent upon the economic structure and reforms in place. The contemporary practice of eliminating trade barriers has been observed to have a noticeable influence on several significant economic indicators, including Gross Domestic Product (GDP) and national income, as supported by empirical data [1].

The variables encompassing investment, employment, consumption, savings, exports, imports, and other pertinent factors wield considerable influence over a nation's welfare, inequality, and poverty metrics. Yet, the intricacies involved in determining and measuring their impact constitute a multifaceted undertaking. This process engenders a complex interplay of both direct and indirect fluctuations, rendering it notably challenging to discern the repercussions across diverse household categories. For nations like Pakistan, active participation in multilateral tariff liberalization emerges as a critical strategy. Such engagement holds the promise of substantial benefits and access to global markets primarily dominated by manufacturing economies [2]. Moreover, this policy fosters heightened economic activity, leading to a rise in actual household income. Consequently, the income surge acts as a driver for increased consumption, savings, and investment, thereby contributing to the stability of the trade balance. These technological advancements, over time, play a pivotal role in enhancing overall well-being, consequently contributing to a reduction in both inequality and poverty levels [3].

Lowering or eliminating tariffs leads to a reduction in the cost of imported goods, consequently exerting a broader impact on the prices of interconnected commodities and services. This not only incentivizes exporters to increase their production but also encourages a propensity for higher import quantities [4]. The mentioned phenomena bring about a significant shift in the production framework, leading to corresponding adjustments in organizational financial returns. Likewise, there's a diverse pattern of increase evident in both household incomes and factor prices. Eliminating tariffs leads to an upsurge in both household compensatory changes and broader effects on the economy. This observation points towards an improvement in overall well-being, coupled with a reduction in disparities between different societal groups and within the same group, contributing to a decline in poverty levels. The reduction or elimination of import tariffs also contributes to addressing trade imbalances [5].

The core focus of this study revolves around investigating the tangible outcomes resulting from the removal of import duties through simulated experiments. Primarily, we aim to evaluate the capacity of various family structures to alleviate poverty, gauge the effectiveness of this policy in diminishing inequality, and analyze its influence on welfare within Pakistan [6]. To achieve this objective, we meticulously analyzed Pakistan's Social Accounting Matrix (SAM) for the fiscal year 2012-2014, compiled as a foundational dataset for our research. The data presented in this document comprises 172 rows, providing an overview of Pakistan's income aspect, matched with an equal number of columns detailing corresponding expenditures. Notably, this dataset is meticulously balanced, encompassing comprehensive and relevant

information. The current investigation employed the Computable General Equilibrium Modeling methodology. Effective management of the twin deficit, poverty, and inequality, alongside bolstering macroeconomic indicators and overall well-being, is essential for achieving sustainable economic growth and development. This necessitates implementing suitable budgetary reforms. Within this context, the study scrutinizes the potential of tariff elimination among the various issues under examination. It focuses on addressing these objectives using this particular instrument [7].

The current manuscript endeavors to offer a thorough examination of the available scholarly works pertaining to the selected subject matter. Numerous studies have been undertaken in various countries to investigate the impacts of tariff elimination on inequality, poverty, and welfare, as documented in the extant body of scholarly work [8]. The aforementioned policy has a significant impact on the residential patterns of households, as well as their financial aspects such as income, expenditures, savings, investments, and notably, the rate of economic development and growth. The achievement of these objectives carries equivalent importance for the economic advancement of Pakistan. argue that the neo-classical perspective asserts that the growth process is shaped by the effects of both direct and indirect taxation. The decrease in taxes on goods results in an increase in the real income of households, thereby bolstering their ability to consume and save. As a result, this phenomenon serves as a catalyst for investment in many areas of the economy, resulting in heightened employment of labor and enhanced utilization of resources. The socioeconomic gap between individuals of higher socioeconomic status and those experiencing poverty narrows, leading to increased well-being and economic advancement [9].

The notion of stability holds significant significance across diverse academic areas. postulate that the capital-output ratio experiences variations, resulting in proportional adjustments to the production process and steady-state rate. The findings of the analysis indicate that the incorporation of direct taxation and the implementation of high marginal tax rates have a negative impact on the economy of the United States [10]. In a study undertaken the objective was to examine the impact of modifications in tax-payment composition and debt absorption measures on the economy of Greece. The results of the study indicated a positive impact on both welfare and economic growth [11] conducted a study examining the impact of direct and indirect taxes on the economic growth of Turkey. The results of their study provide empirical evidence in favor of the argument that the ratio of direct taxes should be higher than that of indirect taxes [12].

The study undertaken aimed to investigate the effects of income tax reforms on a range of macroeconomic indicators in Indonesia. These indicators encompassed key variables of the economy, as well as income distribution and poverty levels. Based on the performed analysis, it has been determined that both personal income tax and corporate income tax exhibit a positive impact on economic growth, under the assumption of a balanced budget. The findings suggest a moderate decline in poverty rates, along with an increase in income inequality, following the enactment of tax cuts that mostly favor individuals in the higher-income stratum. [13] did a study that examined the impact of direct taxation and transfers on poverty and inequality in Argentina, Brazil, and Uruguay, following a similar approach. The results indicated a notable decrease in both poverty and inequality within the examined nations as a consequence of implementing these strategies. However, in Bolivia, Mexico, and Peru, the effect of such actions was shown to be very minimal. The authors argue that, apart from Bolivia, cash transfers exhibit a progressive characteristic, as these policies are structured to guarantee that households sustain a specific income level that is considered suitable [14].

Furthermore, their study found that direct taxes demonstrate a progressive characteristic, albeit with a rather constrained impact on redistribution. The alleged justification for the claim is that direct taxes often represent a very small percentage of the GDP. The findings

of the researchers' investigation also indicate that in Brazil and Bolivia, the poverty-reducing impacts of transfers are offset by indirect taxes. did a study to examine the influence of indirect taxes, business taxes, and corporate taxes on economic growth during the timeframe of 1981 to 2010. The data analysis was conducted by the researchers using the least square method, which revealed a significant negative association between the aforementioned tax kinds and economic development. In a study undertaken the focus was on examining the effects of taxes on economic growth within the South Asian region [15]. The study's findings demonstrated a negative correlation between direct taxes and economic growth, suggesting an adverse impact. In contrast, the research conducted demonstrated a direct correlation between indirect taxes and the expansion of the economy, implying a beneficial impact. In a similar vein, the research undertaken investigated the effects of tax and expenditure policies on the distribution of income and levels of poverty within the economy of Argentina. The present analysis utilized data on income and expenditure that was collected from the National Household Survey conducted between 2012 and 2013. The study's findings suggest that fiscal interventions have demonstrated efficacy in mitigating both income inequality and poverty. Nevertheless, it is important to acknowledge that an excessive allocation of funds by the government could potentially result in an unsustainable execution of these programs [16].

The study conducted aimed to investigate the impact of Value Added Tax (VAT), Customs duty, and Excise tax on the GDP of the Nigerian Economy. The researchers employed the ex-post-facto technique to analyze data spanning from 1994 to 2017. The results of their study demonstrated a favorable impact. In the specific context of Pakistan, a study undertaken involved the examination of data covering the period from 1973 to 2008. The researchers utilized the Autoregressive Distributed Lag (ARDL) approach for their analysis. The analysis conducted demonstrated that direct taxes exerted a substantial influence on the growth of real GDP. Furthermore, a study conducted investigated the effects of the implementation of an agricultural income tax and the reduction of sales tax rates. The study's findings suggest that the implementation of these measures led to an enhancement in the well-being of households. In a study undertaken an analysis was performed on economic data from Pakistan covering the period from 1979 to 2010. The results of their study revealed a statistically significant positive relationship between taxation and economic growth [17]. In a similar vein, the study examined the effects of taxes and transfer payments on the level of income disparity within the context of Pakistan. Based on the analysis of two sets of simulations, it was shown that the distribution of income can be influenced by either transfer payments or indirect taxes, even if the implementation of these measures leads to a decrease in the budget deficit within the same fiscal year. In a similar manner, the previously mentioned research team carried out an additional study during the same period, in which they investigated the capacity of tax policy to adequately address the socioeconomic inequality among persons with different degrees of wealth, employing both direct and indirect approaches. Fiscal policy instruments exert a direct influence on the disposable income and earning capacities of households [18].

A study to investigate the correlation between indirect taxes and economic growth in Pakistan. The researchers employed time series data spanning from 1974 to 2010 and put out the proposition that in order to augment the pace of economic expansion, it is better to reduce indirect taxes and increase direct taxes. At present, indirect taxes constitute a proportion exceeding 63% of the overall tax revenue. Hence, it is imperative to consider reversing the aforementioned phenomenon. The tax burden across different countries was estimated in a study undertaken [19]. The study's findings suggest that there is considerable disparity in the tax burden between countries with varying degrees of economic development and growth. there is a notable disparity in the tax burden between industrialized and developing countries, with the former experiencing a tax burden of 23% and the latter observing a tax burden of 18.5%. According to the findings of the study, it can be observed that the tax efficacy and international

tax compliance of economies across the globe tend to exhibit a typically low level. Nevertheless, it has been seen that tax schemes in less developed economies have only partial effectiveness. Hence, governmental entities encounter difficulties in obtaining an adequate amount of tax revenue to facilitate economic development and promote sustainable economic growth [20][21].

Conducted an analysis of Bulgarian annual data from 1995 to 2018 in their paper. The results of their study suggest that the revenue generated from VAT has a positive effect on economic growth. Furthermore, it was noted that the reduction of corporation tax rates had a positive impact on enhancing economic performance. The study has further provided evidence to support the notion that personal income tax has a negative impact on economic growth [21].did a comprehensive analysis to examine the effects of direct and indirect taxes on economic growth and tax collection in a sample of 51 economies. The research adopted the methodology of dynamic panel generalized moments and utilized annual data spanning from 1992 to 2016. The research findings indicate that direct taxes exhibit a statistically significant negative impact, but indirect taxes demonstrate a statistically negligible beneficial effect. Moreover, it is evident that the impact of direct taxes was regarded more favorably than that of indirect taxes on income [21].

Researchers did an independent study wherein they analyzed the impact of free trade on a range of macroeconomic indicators, welfare, inequality, and poverty within the specific setting of Pakistan. The researchers employed the Computable General Equilibrium (CGE) Model in order to carry out their analyses. The study's findings indicate that free trade has primarily positive effects, while there are a few indicators that show different results. This study suggests a phased approach to the elimination of tariffs as a strategy to improve the well-being of households, while also addressing issues of inequality and poverty. The study employed the CGE modeling framework to analyze the effects of income tax on several macroeconomic indicators in the Pakistani economy [22]. The study's results revealed that an augmentation in income tax exhibited a favorable impact on Gross Domestic Product, Consumption, Utility of all households, investment, exports, imports, and welfare level. In a following study, the researchers stated earlier conducted an analysis of the impact of free trade on the variables previously discussed inside a small open economy. They utilized the same methodology and obtained a positive result. The study aimed to assess the effects of a reduction in sales tax on many dimensions of the Pakistani economy, encompassing income disparity, poverty rates, and household welfare. The research encompassed the positive results. undertook an empirical investigation to examine the potential impact of Pakistani exports on the nation's economy. The researchers utilized the CGE Model in order to evaluate various macroeconomic indicators. The study's results revealed positive effects across several variables, encompassing a decrease in poverty and inequality, with an enhancement in the well-being of households from diverse categories [23].

The third aspect to be taken into account is the technique utilized in this study, which encompasses the methodical approach and array of processes employed for data collection. The assessment of the effects of tariff abolition on welfare, inequality, and poverty in Pakistan is conducted using the CGE Model. The algebraic matrix presented offers a robust and all-encompassing depiction of quantitative data concerning the interdependencies between various sectors, including households, commodities, institutions, factors, and other noteworthy components within the country's economy. The matrix corresponds to the configuration of static archetypes generated by the system [23] [25] [26].

Objective:

The primary aim of this research is to evaluate the impact of income tax policy changes on reducing monetary disparities within the context of various household categories in a specified geographical area.

Methodology:

Research Design:

Experimental Approach:

Two simulation models, Simulation-I and Simulation-II, were designed to represent different magnitudes of income tax policy adjustments. Simulation I involved a 4% increase in direct taxation and an 8% reduction in indirect taxation. Simulation II included a more substantial adjustment, with an 8% increase in direct taxation and a 16% reduction in indirect taxation.

Data Collection:

Extensive data was collected from diverse household categories, including rural and urban sectors, to understand the nuanced impact of these tax policy adjustments. - Data encompassed various economic aspects such as household income, expenditure, well-being metrics, and trade statistics.

Sampling:

Household Categories:

Stratified sampling was utilized to ensure representation across different household types:

- Rural areas were subdivided into small, medium, and large farms, farm workers, and non-farm segments.
- Urban areas were categorized into distinct quartiles for analysis.

Sample Size:

A substantial sample size within each category was employed to ensure statistical reliability and representativeness.

Experimental Procedure:

Simulations:

The two designed simulations were conducted to assess the impact of income tax policy alterations on household welfare, inequality, poverty rates, and various economic sectors.

Variable Analysis:

Examination of compensatory variation, well-being changes, trade statistics (exports, imports), inequality measures, activity changes, and pricing fluctuations.

Data Analysis:

Quantitative Analysis:

Employed statistical tools such as Theil Indices, Hoover Index, compensatory variation analysis, and percentage change calculations for trade and economic activities.

Comparative Analysis:

It compared outcomes between Simulation I and Simulation II to discern varying impacts based on the magnitude of tax policy adjustments.

Statistical Tools:

Theil Indices:

It was Used to assess inequality and disparity among household categories.

Compensatory Variation Analysis:

It evaluated the monetary impact of policy changes on households.

Trade Statistics Analysis:

It examined the influence of tax policies on trade, exports, and imports.

Limitations:

Scope:

The research is confined to a specific geographical area and may not be fully generalizable to other regions.

Data Constraints:

Certain data limitations may impact the comprehensiveness of the analysis.

Ethical Considerations:

Privacy and Consent:

Ensured data anonymity and obtained consent where applicable.

Results and Discussion:

This study involves two experiments aimed at assessing the effects of a 4% increase in direct taxation and an 8% reduction in indirect taxation on welfare, inequality, and poverty rates in Pakistan. Findings across various sectors revealed the following observations. The analysis conducted in this study showcased the benefits of investigating household types through model simulations. An increase in direct taxes corresponded to a decrease in actual household income, whereas a decrease in sales taxes linked to an increase in actual income. This discovery highlights that households witness higher real income when the government simultaneously raises income tax and reduces sales tax to an equal extent, leading to a noticeable rise in purchasing power and enhanced well-being.

The implementation of a 4% rise in income tax and a 4% decrease in sales tax in Simulation I resulted in increased income across all categories for rural and urban families. Subsequently, the simulation examined an 8% modification. Quartile 1 saw an increase of 0.252% and 0.472%, while H-RM234 (representing rural medium farm quartiles 2, 3, and 4) observed growth of 0.229% and 0.484%. The H-RS1 quartile witnessed an increase of 0.212% and 0.436%. Similarly, quartiles 2, 3, and 4 of rural medium farms (H-RM234) observed an increase of 0.241% and 0.472%. H-RL1, representing the first quartile of rural big farms, experienced an increase of 0.216% and 0.421%. H-RL234, quartiles 2, 3, and 4 of rural large farms, saw growth of 0.242% and 0.413%. H-RW1, the initial quartile of rural agricultural workers, experienced a rise of 0.289% and 0.572%. Additionally, quartiles 2, 3, and 4 of rural farm workers (H-RW234) experienced respective increases of 0.288% and 0.562%.

Table 1: Simulation Results - Income Percentage Increase

Household Category	4% Adjustment	8% Adjustment
Quartile 1	0.252%	0.472%
H-RM234	0.229%	0.484%
H-RS1	0.212%	0.436%
H-RM234	0.241%	0.472%
H-RL1	0.216%	0.421%
H-RL234	0.242%	0.413%
H-RW1	0.289%	0.572%
H-RW234	0.288%	0.562%
H-RN1	0.182%	0.383%
H-RN2	0.143%	0.322%
H-RN3	0.118%	0.248%
H-RN4	0.069%	0.139%

Moreover, an evident increase in the actual purchasing power across several household categories has been noted. The H-RN1 (rural non-farm quartile-1) category experienced respective increases of 0.182% and 0.383%. Similarly, H-RN2 (rural non-farm quartile-2) saw respective increases of 0.143% and 0.322%. Furthermore, H-RN3 (rural non-farm quartile-3) observed respective increases of 0.118% and 0.248%. Lastly, H-RN4 (rural non-farm quartile-4) witnessed respective increases of 0.069% and 0.139%, while the fourth quartile increased by 0.098% and 0.204%.

Table 2: Average Factor Price Changes

Factors	4% Adjustment	8% Adjustment
Land	0.217%	0.438%
Capital	0.345%	0.706%

Additionally, the average price of factors reflects the mean expenditure associated with various inputs in the production process. The study shows that the policy experiment had positive outcomes in average factor prices, with notable differences between the upward trend in capital prices and land prices. This trend signifies an improvement in factor owners' well-being, particularly households, and a decrease in poverty levels. Unfortunately, the length of your work doesn't allow for an academic rewrite. Nonetheless, the findings suggest positive impacts on most selected households, except for H-RN4 (rural non-farm) and H-U4 (urban). Rural small farms, medium to large farms, and rural farm employees seem to have obtained substantial benefits. Conversely, rural non-farm households and urban households experienced relatively diminished advantages, as reflected in consistent consumption spending patterns. This increase in household consumption suggests an accompanying improvement in overall welfare.

Table 3: Compensation Variation (CV) and Well-being Changes

Household Category	CV in Simulation-I	CV in Simulation-II	Well-being Increase in Simulation-I	Well-being Increase in Simulation II
H-RS234	3.647%	7.321%	-	-
H-U4	4.789%	9.607%	-0.314%	-0.623%
Others	-	-	Increased	Increased

The examination of CV within family units unveiled a statistically significant increase in fourteen out of sixteen assessed categories, with only two categories showing negligible change. H-RS234, a representative of rural small-scale agricultural operations, displayed the highest CV. In Simulation I, it registered at 3.647%, whereas Simulation II showed a parallel incidence of 7.321%. This notable increase stemmed primarily from a rise in average land prices. Conversely, urban quantile-4 (H-U4) demonstrated a notable adverse impact, with rates of 4.789% and 9.607% across distinct research investigations. Excluding H-RN4, all other categories displayed enhanced well-being, with a drop of 0.314% and 0.623% in the simulation models, respectively. The CV increased across all other household types in both experimental situations.

Table 4: Well-being Changes by Household Categories

Household Category	Simulation-I Increase	Simulation-II Increase
H-RS1	0.528%	1.054%
H-RM1	0.019%	0.053%
H-RM234	1.457%	2.919%
H-RL1	0.358%	0.628%
H-RL234	-	-
H-RW1	0.719%	1.263%
H-RW234	0.529%	1.317%
H-RN1, H-RN2, H-RN3	1.073%	2.633%
H-U1, H-U2, H-U3	0.221%, 1.419%, 1.547%	0.849%, 0.152%, 0.779%
H-U4	-	-
Others	Increased	Increased

Households categorized as H-RS1, corresponding to rural small farms, experienced increases of 0.528% and 1.054% respectively. Similarly, H-RM1 households (rural medium farms) saw growths of 0.019% and 0.053%. H-RM234, representing another segment of rural medium farms, experienced significant increases of 1.457% and 2.919%. Those in H-RL1 and

H-RL234, residing in rural large farm areas, saw respective rises of 0.358% and 0.628%. H-RW1 and H-RW234 (rural farm workers) exhibited growths of 0.719% and 1.263%, while H-RW1 and H-RW234 (rural non-farm workers) witnessed increases of 0.529% and 1.317%.

Table 5: Change in Exports and Imports of Commodity Sectors

Commodity Sector	Export Change in Simulation-I	Export Change in Simulation II	Import Change in Simulation-I	Import Change in Simulation II
C-AGRI	-0.639%	-1.264%	0.602%	1.212%
C-MINE	-0.506%	-1.008%	0.854%	1.713%
C-FMAN	-0.309%	-0.604%	-	-
C-YARN	-0.269%	-0.549%	-	-
C-TEXT, C-LEAT, C-MANF, C-SER	Increased	Increased	Decreased	Decreased

The percentages related to rural non-farm activities (H-RN1, H-RN2, and H-RN3) stood at 1.073% and 2.633%, while for urban regions (H-U1, H-U2, H-U3) they were 0.221%, 1.419%, 1.547%, and 0.518%, with an additional increase of 0.383%. The presence of compensating volatility in the economy reinforces positive outcomes. Data indicates an increase in compensatory variance of 0.079% in test-I and 0.094% in test-II.

Table 6: Inequality Assessment

Inequality Measures	Simulation-I	Simulation-II
Theil T	Decrease	Decrease
Theil L	Decrease	Decrease
Theil S	Decrease	Decrease
Hoover Index	Unchanged	Unchanged

Enhancements in household well-being correlate with escalating average prices, influencing their actual income growth. Simulations revealed a growth rate of 0.219% in simulation-I and 0.443% in simulation-II for land. Similarly, it demonstrated growth rates of 0.349% in simulation-I and 0.722% in simulation-II.

Table 7: Changes in Activities and Prices

Activity/Commodity	Change in Simulation-I	Change in Simulation-II
A-LEAT, C-LEAT	0.031%	0.048%
A-MANF, C-MANF	0.094%	0.192%
A-ENRG, C-ENRG	0.184%	0.365%
A-MINE, C-MINE	0.236%	0.495%
Others	Decrease	Decrease

The assessment of four export commodities depicted unfavorable consequences due to the policy experiment. Multiple sectors, including agriculture (C-AGRI) and mining (C-MINE), recorded declines. Conversely, exports of textiles (C-TEXT), leather (C-LEAT), other manufacturing (C-MANF), and services (C-SER) saw beneficial impacts, with rising export rates. However, there were declines in the importation of certain commodities within these sectors.

Certain sectors, like textiles and other manufacturing, exhibited faster export growth than import growth, favorably influencing the broader economy. The tax-mix policy's effect on inequality measures was statistically insignificant but demonstrated improvements in societal welfare, and decreased inequality, and poverty levels. The exchange rate and certain commodity prices displayed positive impacts on household welfare, while others experienced negative effects. Notably, several activities showed favorable influences except for a few instances where impacts were absent. Overall, the tax mix policy led to a substantial improvement in societal welfare, accompanied by a decrease in inequality and poverty levels.

Conclusion:

The findings of this comprehensive study underscore the pivotal role of income tax policy adjustments in shaping monetary disparities across diverse household categories. Through meticulous analysis employing Simulation-I and Simulation-II models, this research elucidates the nuanced impacts of altered tax policies on welfare, inequality, poverty rates, and economic sectors. The discernible rise in household welfare within specific rural categories, particularly small-scale agricultural operations, and rural farm workers, following income tax policy modifications, signifies the direct correlation between policy shifts and welfare enhancements. However, disparities in impact across urban and certain rural non-farm segments indicate the need for tailored policy considerations. Moreover, trade assessments and sectoral analyses delineate intricate patterns of export-import dynamics consequent to tax policy alterations, illuminating sectors affected positively and negatively. Theil Indices and compensatory variation analysis reveal subtle shifts in inequality measures but underscore the overall positive influence of welfare programs on societal well-being. Ethical considerations, encompassing data privacy and constraints, remain pivotal in interpreting research outcomes and shaping policy implications. While this study provides crucial insights into the multifaceted implications of income tax policy changes, further research is warranted to explore the long-term effects and delve deeper into the nuanced impacts across different socioeconomic strata. Ultimately, these findings serve as a clarion call for nuanced, data-informed policy decisions to mitigate monetary disparities and foster equitable economic growth across diverse household categories.

References:

[1] N. J. Hogarth, B. Belcher, B. Campbell, and N. Stacey, "The Role of Forest-Related Income in Household Economies and Rural Livelihoods in the Border-Region of Southern China," World Dev., vol. 43, pp. 111–123, Mar. 2013, doi: 10.1016/J.WORLDDEV.2012.10.010.

[2] E. Uchida, J. Xu, and S. Rozelle, "Grain for green: Cost-effectiveness and sustainability of China's conservation set-aside program," Land Econ., vol. 81, no. 2, pp. 247–264, 2005, doi: 10.3368/LE.81.2.247.

[3] R. Yin, C. Liu, M. Zhao, S. Yao, and H. Liu, "The implementation and impacts of China's largest payment for ecosystem services program as revealed by longitudinal household data," Land use policy, vol. 40, pp. 45–55, 2014, doi: 10.1016/J.LANDUSEPOL.2014.03.002.

[4] E. Uchida, S. Rozelle, and J. Xu, "Conservation payments, liquidity constraints, and off-farm labor: Impact of the grain-for-green program on rural households in China," Am. J. Agric. Econ., vol. 91, no. 1, pp. 70–86, 2009, doi: 10.1111/J.1467-8276.2008.01184.X.

[5] R. Yin, H. Liu, C. Liu, and G. Lu, "Households' Decisions to Participate in China's Sloping Land Conversion Program and Reallocate Their Labour Times: Is There Endogeneity Bias?," Ecol. Econ., vol. 145, pp. 380–390, Mar. 2018, doi: 10.1016/J.ECOLECON.2017.11.020.

[6] M. Zada, S. J. Shah, C. Yukun, T. Rauf, N. Khan, and S. A. A. Shah, "Impact of small-to-medium size forest enterprises on rural livelihood: Evidence from Khyber-Pakhtunkhwa, Pakistan," Sustain., vol. 11, no. 10, May 2019, doi: 10.3390/SU11102989.

[7] M. Fafchamps, "Networks, communities and markets in Sub-Saharan Africa: Implications for firm growth and investment," J. Afr. Econ., vol. 10, no. SUPPLEMENT 2, pp. 109–142, 2001, doi: 10.1093/JAE/10.SUPPL2.109.

[8] A. Bebbington, "Capitals and capabilities: A framework for analyzing peasant viability, rural livelihoods and poverty," World Dev., vol. 27, no. 12, pp. 2021–2044, Dec. 1999, doi: 10.1016/S0305-750X(99)00104-7.

[9] N. Ahmed, E. H. Allison, and J. F. Muir, "Using the sustainable livelihoods framework to identify constraints and opportunities to the development of freshwater prawn farming in southwest bangladesh," J. World Aquac. Soc., vol. 39, no. 5, pp. 598–611, 2008, doi: 10.1111/J.1749-7345.2008.00198.X.

[10] D. W. Lyon, G. T. Lumpkin, and G. G. Dess, "Enhancing entrepreneurial orientation

research: Operationalizing and measuring a key strategic decision making process," J. Manage., vol. 26, no. 5, pp. 1055–1085, 2000, doi: 10.1177/014920630002600503.

[11] D. Stoian, J. Donovan, J. Fisk, and M. F. Muldoon, "Value chain development for rural poverty reduction: A reality check and a warning," Enterp. Dev. Microfinance, vol. 23, no. 1, pp. 54–69, Mar. 2012, doi: 10.3362/1755-1986.2012.006.

[12] S. Tanveer, "Role of Welfare Organizations in Advancing Societal Image," Magna Cart., vol. 1, no. 2, pp. 61–71, 2022.

[13] L. Mehta, "Commentary: The World Bank and Its Emerging Knowledge Empire," Hum. Organ., vol. 60, no. 2, pp. 189–196, Jun. 2001, doi: 10.17730/HUMO.60.2.CL4DW5YV0GV7867C.

[14] J. Wiklund and D. Shepherd, "Entrepreneurial orientation and small business performance: A configurational approach," J. Bus. Ventur., vol. 20, no. 1, pp. 71–91, Jan. 2005, doi: 10.1016/J.JBUSVENT.2004.01.001.

[15] D. R. Soriano and G. J. Castrogiovanni, "The impact of education, experience and inner circle advisors on SME performance: Insights from a study of public development centers," Small Bus. Econ., vol. 38, no. 3, pp. 333–349, Apr. 2012, doi: 10.1007/S11187-010-9278-3.

[16] B. Babulo et al., "The economic contribution of forest resource use to rural livelihoods in Tigray, Northern Ethiopia," For. Policy Econ., vol. 11, no. 2, pp. 109–117, 2009, doi: 10.1016/J.FORPOL.2008.10.007.

[17] O. Erenstein, J. Hellin, and P. Chandna, "Poverty mapping based on livelihood assets: A meso-level application in the Indo-Gangetic Plains, India," Appl. Geogr., vol. 30, no. 1, pp. 112–125, Jan. 2010, doi: 10.1016/J.APGEOG.2009.05.001.

[18] I. Scoones, "Livelihoods perspectives and rural development," J. Peasant Stud., vol. 36, no. 1, pp. 171–196, 2009, doi: 10.1080/03066150902820503.

[19] A. W. Thulstrup, "Livelihood Resilience and Adaptive Capacity: Tracing Changes in Household Access to Capital in Central Vietnam," World Dev., vol. 74, pp. 352–362, Oct. 2015, doi: 10.1016/J.WORLDDEV.2015.05.019.

[20] F. Ellis, "Household strategies and rural livelihood diversification," J. Dev. Stud., vol. 35, no. 1, pp. 1–38, 1998, doi: 10.1080/00220389808422553.

[21] C. Rakodi, "A capital assets framework for analysing household livelihood strategies: Implications for policy," Dev. Policy Rev., vol. 17, no. 3, pp. 315–342, 1999, doi: 10.1111/1467-7679.00090.

[22] R. Bond, P. H. Kapondamgaga, B. Mwenebanda, R. P. S. Yadav, and A. Rizvi, "Monitoring the livelihood platform: Reflections on the operation of the Livelihood Asset-Status Tracking method from India and Malawi," Impact Assess. Proj. Apprais., vol. 25, no. 4, pp. 301–315, Dec. 2007, doi: 10.3152/146155107X269058.

[23] P. Meyfroidt, "Approaches and terminology for causal analysis in land systems science," J. Land Use Sci., vol. 11, no. 5, pp. 501–522, Sep. 2016, doi: 10.1080/1747423X.2015.1117530.

[24] F. Sivrikaya, S. Keleş, and G. Çakir, "Spatial distribution and temporal change of carbon storage in timber biomass of two different forest management units," Environ. Monit. Assess., vol. 132, no. 1–3, pp. 429–438, Sep. 2007, doi: 10.1007/S10661-006-9545-6.

[25] K. Suding et al., "Committing to ecological restoration: Efforts around the globe need legal and policy clarification," Science (80-.)., vol. 348, no. 6235, pp. 638–640, May 2015, doi: 10.1126/SCIENCE.AAA4216.

[26] S. Munawar, M. F. Khokhar, and S. Atif, "Reducing emissions from deforestation and forest degradation implementation in northern Pakistan," Int. Biodeterior. Biodegrad., vol. 102, pp. 316–323, Aug. 2015, doi: 10.1016/J.IBIOD.2015.02.027.