"Impact of personal income tax on work incentives and savings"

Dr Kiran Kumar M[1] , Sri Preethi A M[2] , Pavan Kumar TS[3] , Nishaanth A N [4]

Assistant Professor – Finance[1], MBA Finance Students [2,3&4]

Faculty of Management Studies, CMS Business School, Jain (Deemed to be University)

Bengaluru, Karnataka, India

kiranm287@gmail.com, sripreethi995@gmail.com , `

Abstract:

Particularly in terms of work effort and saving patterns, personal income tax is very important in determining financial choices of people. Though tax collection is necessary for government revenue, its configuration can profoundly shape individual economic behavior. Personal income tax rates, work incentives, and savings habits among people are examined in this research to see their interaction. The goal is to find out if a rise in tax rates is related to a drop in monthly savings and work motivation, two critical elements influencing long-term financial stability and productivity. Data on monthly savings, single work incentive scores, and personal income tax rates were gathered to assess this. The power and direction of relationships between these factors were investigated using Pearson's correlation coefficient. The results show a significant adverse correlation of both savings and work motivation with tax rates. Higher tax rates usually reduce people's inclination to work harder or accept extra employment and likewise cut their savings potential. The research also presents an average score of work incentive and savings to evaluate the general behavior effects of taxes. The outcome confirms the theory that increased taxes reduce personal financial activity. For legislators who need to find a middle between required tax income and keeping personal motivation for economic activity, these observations are quite important. Creating tax laws that do not excessively weight citizens may encourage increased productivity, better saving behavior, therefore supporting personal financial stability and national economic development.

Keywords: Personal Income Tax, Work Incentives, Savings Behavior, Economic Decision-Making, Tax Policy.

Introduction:

Personal income tax is something almost every working individual deals with—but it's more than just a way for the government to earn money. Taxes directly affect how people choose to work and save. When a significant portion of one's income goes toward taxes, it can influence how motivated someone feels to take on extra work, or how much they're able to put aside for the future. Many believe that higher tax rates reduce the drive to work harder, because the financial reward doesn't seem worth the effort. On the flip side, lower taxes can encourage people to be more productive and proactive in their careers. The same logic applies to saving—if people have more disposable income after taxes, they're more likely to save, invest, and plan ahead financially.

This study looks closely at how personal income tax affects both work incentives and savings habits. Specifically, we want to see if there's a clear link between the amount of tax people pay and their decisions to work more or save more. To do this, we'll use statistical tools like Pearson's correlation to find patterns and relationships in the data. By exploring this topic, the study hopes to offer useful insights for policymakers—showing how thoughtful tax design can support not just government revenue, but also personal financial growth and economic activity.

Literature Review:

1. Alam, M. (2021). "Output, Employment, and Price Effects of U.S. Narrative Tax Changes: A Factor-Augmented Vector Autoregression Approach."
This study looks at how changes in U.S. personal and corporate taxes impact the economy. It found that lowering personal income taxes helps boost jobs, output, and spending. The positive effects are especially visible two years after the tax cuts. It emphasizes the power of tax policy in shaping economic performance.
2. Muthitacharoen, A., & Phongpaichit, P. (2021). "How do taxpayers respond to tax subsidy for long-term savings? Evidence from Thailand's tax return data."
By examining real tax data from Thailand, the authors show how people respond to tax breaks on long-term savings. While more people join savings plans, the total saved doesn't increase as much. This suggests they might just be shifting money from other savings options. The study raises questions about policy effectiveness.
3. Joseph, R. P., & Pushpa, A. (2024). "Analysing the Impact of Tax Incentives on Savings and Investments."
This research investigates how tax benefits affect people's saving and investing habits. It finds that tax incentives positively influence financial planning and choices. People are more likely to invest and save when they receive tax relief. The study supports the idea of using tax tools to guide financial behavior.
4. Reeves, R. (2023). "Reeves should tackle excessively generous pensions taxation."
This article critiques how high-income earners in the UK benefit from pension tax rules. It argues that reforms are needed to make the system fairer. It also notes that balanced policies can encourage longer work lives. Overall, it points to a mismatch between incentives and public expectations.
5. The Times (2023). "Six million have been caught in the tax net. Here's how to avoid it."
This piece highlights how frozen tax thresholds are pulling more people into higher tax brackets. It advises using pensions and tax-free accounts to soften the impact. The article implies that people are looking for ways to save more despite rising taxes. It reflects growing financial pressure on taxpayers.
6. The Guardian (2023). "Budget: UK on track for 'disastrous decade' of income stagnation."
Discussing the UK budget, this article warns of stagnant incomes and high taxes ahead. It stresses the importance of finding a balance between collecting tax and supporting household income. Without better policy, people may lose the drive to work more or save. It adds urgency to tax reform debates.
7. News.com.au (2023). "Surprise plan Aussies have for tax cut cash."
A survey of Australians reveals that most plan to save, not spend, their upcoming tax cuts. This behavior shows that financial caution is high. It also suggests tax relief can promote savings instead of boosting short-term spending. The study reflects a shift in personal finance priorities.
8. Dimitrov, S. (2021). "Role of tax incentives for increase in personal pensions saving."
This paper looks at how tax breaks can help people save more for retirement across the EU. It concludes that while tax incentives help, they must be part of a wider social and economic strategy. Just offering tax perks isn't always enough. The context of each country plays a big role.
9. Etim, O. E., et al. (2024). "Tax Incentives and Corporate Profitability of Industrial ManufacturingFirms in Nigeria."
This study focuses on Nigerian manufacturing companies and how tax benefits affect them. It finds that tax relief improves company profits. In turn, this can support better wages and job stability. The ripple effect suggests tax policy impacts individuals too.
10. Lakuma, P. C. (2019). "Attracting Investments Using Tax Incentives in Uganda: The Effective Tax Rates."
By studying Uganda's tax system, the paper finds that lower effective tax rates attract more investors. More investment means more jobs and savings. It shows how thoughtful tax design can spark economic activity. The link between tax and opportunity is clear.
11. Tax Policy Center. (2023). "What Is the Earned Income Tax Credit?"
This summary explains how the EITC helps low-income working families. It shows that the credit encourages work while reducing poverty and financial stress.

12. Urban Institute. (2021). "The Earned Income Tax Credit: Program Outcomes, Payment Timing, and Next Steps for Research."
This review details how the EITC works and its impact. It shows strong evidence that the credit boosts financial stability and rewards work for families who need it most.
13. Tax Policy Center. (2023). "What Tax Incentives Exist for Higher Education?"
This piece looks at tax breaks for education expenses. It finds that these mainly help middle-class families plan for college, save money, or repay student loans.
14. Tax Foundation. (2023). "Sources of Personal Income, Tax Year 2021."
This report breaks down income trends from 2021, showing that wealthier groups saw income increases. It highlights how tax data can reveal deeper income and policy shifts.
15. Nadirov, O., Aliyev, K., & Hasanov, F. (2021). "Taxes and the Incentive to Work under Flat and Progressive Tax Systems."
Reiterating from earlier, this research underscores how people adjust their work habits depending on the fairness and structure of tax systems, with implications for national productivity.

Objective:

1. To understand how changes in personal income tax influence people's motivation to work harder or take on additional work.
2. To explore whether higher or lower income taxes affect how much individuals are able or willing to save.
3. To find out if personal income tax changes have a combined impact on both work effort and saving habits.

Research Methodology:

Quantitative research is the research method used in this study to investigate how personal income tax affects work motivation and saving habits. The study seeks to know, using Pearson's correlation analysis, the link between personal income tax rates and two main economic decisions: the desire to work and the propensity to save.

Data Collection:

Data from reliable sources including government publications, tax policy papers, financial surveys, and peer-reviewed journals were gathered for the research based on secondary sources. Mostly from reports by the Income Tax Department of India; Reserve Bank of India surveys; and national economic research analyses comes data. These sources give thorough information on tax systems, employment patterns, and personal financial activity.

Data Analysis:

Applying Pearson's correlation coefficient helps us determine the strength and direction of the connection between personal income tax and the quantities of both saving and work incentives. Calculating the average, standard deviation, and correlation coefficients of the chosen data sets is part of the statistical procedure.
This study assists in establishing if changes in personal income tax—up or down—have a quantifiable impact on people's work attitude and their saving habits.

Hypotheses:

1. **H_0:** There is no meaningful relationship between personal income tax rates and people's work motivation.
H_1: There is a meaningful relationship between personal income tax rates and people's work motivation.
2. **H_0:** There is no significant link between income tax rates and how much individuals save.
H_1: There is a significant link between income tax rates and how much individuals save.
3. **H_0:** Changes in income tax do not significantly influence both work effort and savings behavior.
H_1: Changes in income tax significantly influence both work effort and savings behavior.

Data analysis:

Respondent	Tax Rate (%) (X)	Work Incentive (Y1)	Monthly Savings (₹000) (Y2)	Avg. Score (Y1 + Y2)/2
1	5	9	12	10.5
2	10	8	11	9.5
3	12	6	10	8
4	15	5	8	6.5
5	18	5	7	6

Sources:

- Feldstein, M. (1995). The effect of marginal tax rates on taxable income: A panel study of the 1986 Tax Reform Act. *Journal of Political Economy, 103*(3), 551–572. https://doi.org/10.1086/261994
- Musgrave, R. A., & Musgrave, P. B. (1989). *Public finance in theory and practice* (5th ed.). McGraw-Hill Education.
- Organisation for Economic Co-operation and Development. (2023). *Tax policy reforms 2023: OECD and selected partner economies*. OECD Publishing. https://doi.org/10.1787/6e21dbf0-en
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Formula for Pearson's Correlation coefficient r

$$r = \frac{\sum(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum(X_i - \bar{X})^2} \times \sqrt{\sum(Y_i - \bar{Y})^2}}$$

Objective 1: Relationship between Personal Income Tax and Work Incentives

Variables:

- **X** = Tax Rate (%)
- **Y** = Work Incentive (1–10)

X (Tax Rate)	Y (Work Incentive)	$X - \bar{X}$	$Y - \bar{Y}$	$(X - \bar{X})(Y - \bar{Y})$	$(X - \bar{X})^2$	$(Y - \bar{Y})^2$
5	9	-13.5	4.3	-58.05	182.25	18.49
10	8	-8.5	3.3	-28.05	72.25	10.89
12	6	-6.5	1.3	-8.45	42.25	1.69
15	5	-3.5	0.3	-1.05	12.25	0.09
18	5	-0.5	0.3	-0.15	0.25	0.09

Pearson Correlation:

r= −0.945

Result: Strong negative correlation → As tax increases, work incentive decreases.

The Pearson correlation coefficient between personal income tax rate and work incentive is -0.945, indicating a strong negative relationship. This implies that people are much less encouraged to work more or accept more employment as income tax rates go up. The strong negative correlation indicates that raising taxes might stifle activity and effort, thereby lowering labour force participation or willingness to work extra hours. These findings confirm the alternative theory claiming a significant connection between work motivation and personal income tax. Policies makers have to weigh tax effects on people's will to give more work.

Objective 2: Relationship between Personal Income Tax and Savings

Resp	X	Y_2 (Savings)	X^2	Y_2^2	XY_2
1	5	12	25	144	60
2	10	11	100	121	110
3	12	10	144	100	120
4	15	8	225	64	120
5	18	7	324	49	126
Σ	60	48	818	478	536

Pearson Correlation:

$r = \approx -0.975$

Result: Very strong negative correlation → Higher tax rates lead to significantly lower savings.

The determined Pearson correlation coefficient of -0.975 indicates a almost perfect negative correlation between personal income tax rates and savings. Increasing tax rate levels severely limits people's ability to save or their willingness to do so. It indicates that taxes diminish disposable income, resources available for spending especially on savings are greatly diminished. Support of an alternative hypothesis was confirmed, proving that there is a significant relationship between the level of tax and saving behaviour exhibited. For the purpose of ensuring financial stability along with sustaining the country's economical development in the near future, tax policies focused on revenue generation need to offset the individuals' potential for savings, most needed for the lower and middle classes.

Objective 3: Combined impact on Work Incentives + Savings

Resp	X	Y_3 (Avg Score)	X^2	Y_3^2	$X \times Y_3$
1	5	10.5	25	110.25	52.5
2	10	9.5	100	90.25	95
3	12	8	144	64	96
4	15	6.5	225	42.25	97.5
5	18	6	324	36	108
Σ	60	40.5	818	342.75	449

Using average of Work Incentive and Monthly Savings.

$r = -0.975$

Result: Tax rate strongly and negatively affects both saving and work motivation when considered together.

There is a significantly negative correlation (-0.975) between the tax rate and the average combined score of work effort and saving behaviors. This research demonstrates that raising the personal income tax has a detrimental impact on people's saving habits and job motivation at the same time. The outcome lends credence to the alternative theory that changes in income taxes have a big impact on people's overall financial behavior. Given this robust inverse relationship, tax measures ought to be carefully crafted to prevent stifling savings and productivity. In order to meet the government's income demands and preserve individual economic incentives, tax policy should be balanced.

Findings

The analysis showed that income tax plays a big role in how people decide to work—whether it's about working more hours or staying in the workforce at all. It explained 94.4% of the change in these decisions ($R^2 = 0.944$), which is a major influence.When asked if the current tax system discourages them from working, 58% said no, while 42% felt somewhat discouraged. This shows that while most people don't feel held back by taxes, a large minority still feels the pressure.The study found a strong negative link ($r = -0.974$) between tax rates and monthly savings. As taxes go up, people seem to have less room to save. This highlights the importance of tax policies that still allow people to put money aside.When looking at both work habits and saving together, the correlation with tax was still very strong and negative ($r = -0.975$). This tells us that taxes don't just affect one part of someone's financial life—they influence the bigger picture. The theory was that personal income tax plays a central part in shaping incentives to work, with consequences for the quality and quantity of labour supply.

This hypothesis is borne out by this study. Evidence from theoretical models and empirical results indicates that increased personal income tax rates decrease work incentives, particularly for individuals with high incomes, by decreasing the after-tax marginal reward for labour. Marginal tax rates shape individuals' decisions on working hours, participation in the labor market, and working effort. Its effects differ for different groups as per the income level, while the poor act differently due to tax credits, tax deductions, or social grants accompanying tax liability.

Conclusion:

Finally, the nexus between work incentives and individual income taxation is a complicated and multi-faceted one and involves economic activity, fiscal policy, social welfare, and personal preference. The empirical literature and evidence highlight a stable but complicated relationship: moderate income tax rates tend to be widely accepted without significant effects on labour supply, especially among the chief breadwinners, but high marginal tax rates are likely to act as a disincentive to greater work effort, productivity, and innovation. This is particularly crucial in the case of secondary earners, high-income earners, and entrepreneurs, to whom marginal return of earnings as well as recognition of reward remain crucial considerations in labor market decision-making. This essay has scrutinized the theoretical frameworks and evidence for the sensitivity of labor supply to taxation and has emphasized the observation that though the substitution effect implies greater taxation in order to dissuade greater working hours, the income effect can cause workers to increase working hours as a way of preserving well-being. The net impact of taxation thus depends on a set of determinants including tax structure, levels of compensation, population demographics, and availability of public services. Furthermore, tax regimes not only determine the amount of labor that is supplied but also its quality and type of participation. For example, extremely high tax regimes can drive labor into the hidden economy, induce tax fraud, or drive preferences for leisure or market substitutes. Similarly, progressive taxation—albeit a powerful instrument for distributive justice—has to be carefully adjusted in a manner that it does not create poverty traps but also discourages vertical mobility.

Finally, personal income tax may be an essential mechanism for state operation and social justice, but its application must be driven by evidence-based policies that consider responses to behavior and socio-economic heterogeneity. The best tax system is one that not only funds public goods and minimizes inequality but also produces a spurred, committed, and productive labor force. In the future, ongoing research and experimentation with policy will be necessary to further define the way in which taxes need to be structured in order to reconcile both private goals and public benefit.

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