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Evaluation of the 2010 Greek Tax Reform

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The estimation of income tax-price elasticities is of critical importance in the examination of taxpayers' behavioral response to changes in marginal tax rates. The magnitude of differential responses across income classes and occupational groups allows to evaluate a tax reform and to predict tax revenue effects. Considerable disparities in misreporting income are effectively revealed adopting the changes introduced in the 2010 Greek Tax Reform, implying a potential reduction in expected tax revenues. In particular, tax revenues are likely to decrease by €778 million, if taxpayers' responsiveness to changes in marginal tax rates and the abolition of autonomous taxation are not considered.

Introduction

The examination of the taxpayers' behavioral response to changes in marginal tax rates is essential in estimating the impact of a tax policy, so as to minimize bias and avoid erroneous policy recommendations. In fact, the effectiveness of a tax policy is affected by changing behavior, as taxpayers' reporting decisions are subject to the structure of the prevailing tax system. Given that Greece is considered a country with high tax avoidance and evasion rates, the estimation of the reported income tax-price elasticity could prove useful especially for policy makers and taxpayer advocates for the evaluation of alternative tax policies and the prediction of tax revenue effects.

Methodology

Regression quantiles are employed for the examination of the responsiveness of a wide range of reporting behavior to marginal tax rates and individual's responses at different points of the income distribution and for different occupational groups. The impact of an upward shift in marginal tax rates on the individual's reporting decision is measured using income tax-price elasticities. The 2009 dataset of individual tax returns is provided by the Greek General Secretariat for Information Systems, Ministry of Finance. The empirical analysis is based on the tax brackets of the fiscal year 2009, as well as of the 2010 tax reform.

Empirical Results

The marginal tax rate (t) appears to have a negative impact on reported income, while it increases considerably at the highest income classes. The large disparities observed justify the use of quantile regressions. Figure 1 illustrates the income tax-price elasticities for different occupational groups. The estimated elasticities are rather low compared to those reported in previous studies implemented for other countries, implying that the taxpayers' response is not as high as expected. Nevertheless, income tax-price elasticities appear to vary considerably across occupational groups and income classes.

In the upper income classes, self-employment income exhibits generally the lowest elasticity. It should be noted, however, that in Greece self-employees have more flexibility in their reporting decisions, as they can easily alter their work schedule

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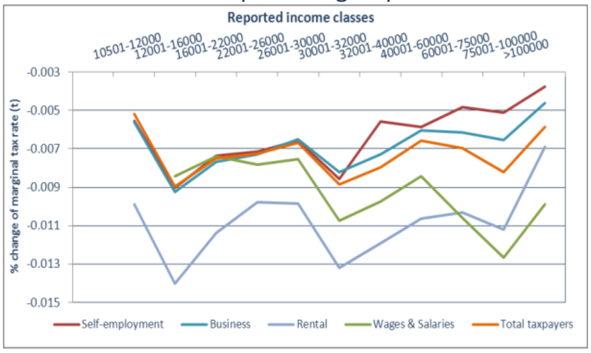
or compensation arrangements, shifting even to the underground economy. Taking this into account, the starting level of the reporting income is effectively underestimated affecting, thus, the empirical results.

Figure 1. Estimated income tax-price elasticities by occupational group



Overall, it can be argued that misreporting increases for high income individuals regardless of their occupation. Taxpayers of the subgroup Wages & Salaries, who also have high income, appear to respond more to tax rate increases than those of other occupational groups. However, these individuals are more likely to report higher income, as their main income source is easily traceable and they may have alternative income sources. As a result, they may attempt to reduce their tax liability by avoiding reporting income from other sources.

Analysis of the '2010 Tax Reform' scenario

Given the new structure of the tax system and the abolition of autonomous taxation, the analysis of the 2010 Greek Tax Reform scenario was implemented in order to provide estimates of the tax revenue effects. Table 1 presents the estimated **losses of tax revenues due to the negative responsiveness of taxpayers to changes in tax policy across income classes and occupational groups**.

It is evident that in the upper tax bracket, the individuals facing the highest increase in tax rates are those who may exhibit the greatest response. Taxpayers having rents as their main income source and reporting more than €100,000, have a higher tendency to misreport income, although they are the smallest group. Those reporting Wages & Salaries and Business income follow. On the other hand, the tax revenue increases at the lower income classes result from the abolition of autonomous taxation.

Table 1. Estimated tax revenue losses based on the 2010 Tax Reform

million €	**Rent earners**	**Wage earners**	**Business-men**	**Self-employed**	**Pensioners**	**Farmers**	**Total* taxpayers**
>100.001	-109,501	-85,943	-65,408	-48,607	-31,651	-19,309	-360,899
75.001-100.000	-10,812	-17,048	-13,891	-6,844	-6,996	-4,547	-60,249
60.001-75.000	-9,403	-21,568	-14,399	-10,928	-7,559	-3,522	-67,471
40.001-60.000	-13,853	-38,379	-29,618	-15,299	-17,997	-10,573	-125,916
32.001-40.000	-8,141	-27,107	-18,243	-6,709	-12,086	-8,550	-80,865
30.001-32.000	-1,430	-1,232	-2,312	87	1,165	-2,193	-5,927
26.001-30.000	-6,063	-37,932	-14,662	-10,034	-31,660	-9,152	-109,530
22.001-26.000	-2,656	-6,349	-3,858	-1,053	-7,068	-4,809	-25,243
16.001-22.000	-4,734	5,363	-5,727	796	-4,704	-8,101	-16,516
12.001-16.000	176	40,429	441	7,512	7,738	613	73,855
Total	-166,416	-189,766	-167,678	-91,080	-110,818	-70,144	-778,760

*: The column refers to estimated totals.

Moreover, the highest tax revenue loss more likely stems from wage earners' tax avoidance followed by the reduced tax liability of businessmen and rent earners. Self-employed appear to have the lowest responsiveness compared to those belonging to other occupational groups. Nevertheless, the fact that they have more flexibility and incentives in misreporting should be taken into account.

Overall, tax revenues are likely to decrease by €778 million, if the taxpayers' responsiveness to changes in marginal tax rates and the abolition of autonomous taxation are not considered. It should be also noted that the use of an estimated mean elasticity can capture only part of this loss (i.e. about €220 million). This figure is significant in view of the Greek debt crisis, implying that additional measures may be needed to fulfill the potential gap in tax revenues.

Conclusions & policy recommendations

Changes in marginal tax rates induce taxpayers to alter their behavior in ways that affect their reported income. The magnitude of this response is of critical importance in the formulation of tax and fiscal policies. The present analysis reports estimates of the responsiveness of Greek taxpayers using regression quantiles.

A scenario evaluating the 2010 Greek Tax Reform in terms of loss oftax revenues was implemented based on the estimated income tax-price elasticities. ***The results obtained suggest that tax revenue losses may be significant mainly due to the tax responsiveness of high income individuals and in particular of those earning rents or wages and of businessmen.***

The issue of tax avoidance and evasion should be addressed by examining differences in taxpayers' responses along income classes and occupational groups and not by merely using the mean elasticity. Consequently, tax policy should take into account not only the mean reported income, but also the income distribution involved. Thus, differentiation in taxpayers' behavioral responses is key when assessing expected tax revenues and also for better evaluating individual incomes tax reforms.

The present analysis is based on the following KEPE Discussion Paper, available upon request by the authors:

E. Kaditi and E. Nitsi. (forthcoming). Recent evidence on the taxpayers' reporting decision in Greece: A quantile regression approach. Discussion Paper, Athens: KEPE.