Reforming the Individual Direct Taxation System of North Cyprus

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Abstract

The need to restructure the taxation system of the TRNC arise from the unsustainable public sector deficit, inequalities in the tax incidence, and the dependency of fiscal support from Turkey. This paper investigates the changes that need to be made to its individual directs tax in order to have a more sustainable structure of government finances. The tax reform measures proposed, developed, and analysed in this paper indicates that it is possible to create a simpler, more equitable, revenue-productivity direct tax system while improving the incentives for enhanced taxpayer compliance.

Keywords: pension funds; personal income tax; tax incidence; tax compliance; fiscal equity

JEL Classification: H24, H26

Introduction

The taxation system of the TRNC consists of a value-added tax, a corporate tax, a personal income tax, social security and provident fund contributions, excise taxes (funds), and import duties. According to the state planning organization, total indirect and direct tax collections were 22.36 percent of gross domestic product (GDP) in 2015 and 20.65 percent of GDP in 2018.[1] These rates of effective taxation are typical for a middle-income country. An important component of the tax system is the individual direct taxes, including the personal income tax and the contributions made to the social security and provident funds. The share of GDP paid in income taxes plus these contributions amounted to about 12.8 percent of GDP in 2018. In the same year, the total direct tax revenues were estimated to be approximately 7.2 percent of GDP.[2]

There are a number of factors that highlight the importance of restructuring the taxation system of the TRNC. These include the need to reduce the public sector deficit and incentives for tax avoidance and evasion, and the need for the tax burden to be distributed more equitably.

Moreover, Turkish Cypriots' desire to join the European Union (EU) necessitates a tax system consistent with the EU taxation norms. The TRNC is now in a similar situation to that faced by the Republic of Cyprus before it prepared its tax system to be compatible with EU norms.[3]

The government of the TRNC spends approximately 40 percent of its total tax revenues in covering the current deficit in the social security pension system.[4] For example, in 2015 the annual contributions to the pension component of social security financed only 50 percent of the payments made by social security to pensioners in that year. The annual deficit of the social security pension system amounted to TL 368,302,758 in 2015, TL 400,324,605 in 2016, TL 472,143,377 in 2017 and TL 561,690,374 in 2018. The financing of the social security system in this way is unsustainable.

Historically, the public sector deficits have been financed by either forgivable loans or grants from the government of Turkey. Because the TRNC has neglected the reforms it promised to undertake and because Turkey is now dealing with its own financial difficulties, the amount of financial support has decreased. Excluding its defense expenses in the TRNC, the financial support given by Turkey to the TRNC government has fallen from TL 335 million in 2018 to TL 245 million in 2019, which is equal to only TL 174 million in 2018 prices. It would appear that in the future, the TRNC may have to rely more on its own resources to finance its public sector obligations.

Individual microsimulation models have been built of both the direct tax system and the social security and provident fund system of the TRNC to analyze the various components of the TRNC's fiscal system. Altıok and Jenkins estimated the annual and present value of the future deficits of the TRNC's Pay-As-You-Go (PAYGO) Civil Service and Social Security pension systems using such microsimulation models.[5] Recently, Sokhanvar, Altıok, and Jenkins undertook a diagnostic of the personal direct tax system and the charges that are levied for the funding of the social security and the provident fund in the TRNC using a microsimulation model covering the components of the individual direct tax system.[6] They estimated the average and marginal rates of tax on income earned by individuals. The empirical microsimulation models developed for these studies are utilized for the analysis of the alternative reform proposals discussed in this paper.

Overview of the current individual direct tax system

The social security system in the TRNC is administered separately from the personal income tax system. For employees, the rates of social security taxation are 5 percent for pensions and 4 percent to cover the costs of the public health services and other items such as unemployment and disability insurance. All contributions to pensions and other components of social security are calculated as a percentage of declared gross income (Table 1).

Employers are also required to make a contribution on behalf of their employees. For social security, the rates of the contribution made by the employer are 7.5 percent of the declared gross income of the employee for pensions, and 3.5 percent for health and other items such as unemployment insurance. The total combined rate of social security paid by both the employer and the employee is 20 percent of the employee's declared gross income. In addition to the social security system, there is a provident fund savings program with minimum equal contributions of 4 percent to be made by both employee and employer. This gives a combined rate of at least 8 percent of the employee's declared gross income.[7] In total, 28 percent of the individual's declared or reported income is paid in social security and provident fund contributions by the employer on behalf of the employee (Table 1, columns 1, 2, and 3). In terms of tax incidence, it is irrelevant whether the legal contributor is the employee or the employer, as all these charges are a cost of employing labor.

[Insert Table 1 about here]

The provident fund requires that employers deposit contributions for themselves and their employees in a government account. Interest is paid by the government on the individual's balance in the fund and can be withdrawn as a lump-sum payment upon retirement age.

The contributions made by individual employees and their employers to the social security and provident fund are allowed as deductions in calculating personal income tax (Table 1), while at the same time no income tax is paid on the accumulated interest earnings. Furthermore, no tax is levied on the payouts of either the pension funds (both social security and civil service pensions) or the provident fund or civil service gratuity.

For the self-employed, the social security contributions relating to the pension component of social security is 12.5 percent of declared gross income. The health and other components of the social security system require a contribution of 6 percent of declared gross income for a total of 18.5 percent (Table 1, column 4). Those who are self-employed can voluntarily open an account with the provident fund and make contributions to it. The provident fund contributions can be deducted from their declared taxable income and at the same time no income tax is levied on the withdrawals from the provident fund. Even with this very generous tax treatment, not a single self-employed individual made any contribution to the provident fund in the year of our analysis, 2015.

In the taxation systems of most of countries, including Canada and Turkey, provident funds, whole life insurance policies, and the pension component of social security are taxed either at the point of contribution or at the point of retirement. In the TRNC, these forms of retirement savings receive double relief from the income tax system.

Table 2 contains a summary of the Individual Income Taxation Rules in the TRNC in 2015. The definitions of taxable income presented in the first three rows of Table 2 are each unique to the source of the individual's income. Equation 1 (Table 2, row 1) defines taxable income for an individual employed in the private sector or post-2008 government employee. Equation 2 (row 2) defines taxable income for a self-employed individual and equation 3 (row 3) defines taxable income for civil servants who were hired pre-2009. More details on these taxation rules are found in the work of Sokhanvar, Altıok, and Jenkins.[8]

[Insert Table 2 about here]

While there are strong sanctions against employees or the self-employed for working without registering with the social security office, private sector employees have the option of declaring an income as low as the minimum wage rate, even if their true income is much higher. This practice is facilitated by the fact that private employees can declare a level of compensation for the calculation of social security and provident fund contributions and individual income taxation, while at the same time employers can deduct the full amount of the employees' total compensation as a business expense for the purposes of corporation income taxation. Although technically illegal, in practice this arrangement has been tolerated by the government and its tax administration.

Given the relevant laws and practices of the TRNC, and according to 2015 data, more than 75,000 people (approximately 61 percent of individuals in the official labor force) pay no income tax, while most of them pay social security and provident fund contributions on declared gross incomes of approximately the minimum wage.[9] In other words, utilizing a set of complicated tax deductions and tax exemptions, in addition to a basic exemption equal to the minimum wage, removes these individuals from being subject to income tax. This tax jungle provides a safe haven for many from the prospect of actually paying income taxes. At the same time, it is a very effective make-work device for local accounting firms. The net result is a high level of taxpayer compliance costs, but little income tax revenue.

The total effective marginal rate of fiscal burden is 54.64 percent of gross-of-tax earnings for employees who earn and declare incomes that place them in the top income tax bracket.[10] This assumes that they are fully complying with the tax laws. What is astonishing is that this high marginal rate of income tax begins at an annual income level equal to only US$ 20,000. These tax and contribution systems provide a powerful incentive for tax avoidance. If individuals declare an annual gross income equal to or higher than this level, they pay full payroll taxes (social security and provident fund contributions) and income tax.

In terms of the social security pension system, 83 percent of individuals and their employers declare gross incomes that make them eligible for the lowest pension.[11] They do this even though employees and their employers pay in present value terms only a third of the true cost of future pension benefits they are promised.[12] Considering the self-employed, only 12 percent of these individuals end up paying for a social security pension beyond the level of contributions required by someone making two minimum wages. The self-employed choose to pay this level of contributions because if they declared a lower level of compensation, they would be leaving more money in their businesses and would therefore end up paying more taxes (corporation plus individual) overall.[13]

Although the income tax has the appearance of being an instrument for vertical equity, it principally serves to reduce the after-tax salaries of government employees and the staff of various parastatal organizations in the TRNC who receive relatively higher gross-of-tax salaries. These individuals cannot evade income taxes by declaring gross income lower than what they are being paid by their government organization. For example, civil servants hired pre-2009 make up only 8.7 percent of the total number of taxpayers but contribute 53.4 percent of the total income tax collections. These people, who will retire and leave the system over the next 15 years, contribute 3.26 times the average income tax burden of all individual taxpayers.

For the self-employed, the marginal fiscal burden of social security plus income tax (excluding the provident fund contributions) for those in the top tax bracket (who declare an average gross income of US$ 29,122) would be 45.57 percent. This relatively high marginal tax rate at such a modest income level is a plausible explanation for why most of these people do not declare their real income, and only 346 of the 11,586 (3 percent) self-employed pay taxes in this tax bracket.[14]

In summary, there are many structural and compliance issues embodied in the current individual tax system in the TRNC that need to be reformed. These include reforms in the design of the income tax system and the rules governing the pension and provident fund systems, as well as the administration of the tax system.

Structure of the tax reform

Although a comprehensive reform of the entire taxation system in the TRNC is warranted, this paper focuses only on the reform of the individual income tax, and its relationship to the contributions made to the social security and provident fund. Given the current state of the direct tax system, the objective of this paper is to outline and estimate the revenue and incentive implications of a set of alternative tax reforms to deal with the above-mentioned tax design defects.

There are four fundamental objectives or principles that underlie the design of the alternative reform options reported here. These principles have been well articulated in the applied public finance literature, for example in the work of Burgess and Stern, and Harberger.[15]

First, the design of the tax rules should be as simple as practically possible. Second, in all cases the total revenue to be taxed by the entire direct tax system must be at least as large as the current revenues. The third objective is that the system should be fair in terms of horizontal as well as vertical equity. Fourth, the marginal tax rates should be as low as possible to reduce the incentive for tax evasion.

The proposed reforms will have three major components. First, the rates of social security, provident fund and civil service pensions will be modified so as to make the funding of the pension and health systems by individuals horizontally equitable across different types of employment. Second, a major reform is proposed to the way individual income is taxed. The double tax advantages now given to savings made through the compulsory social security and provident fund pension systems and life insurance policies will be eliminated. In addition, the large tax deductions that are currently a percentage of taxable income will be removed. The number of tax brackets will also be reduced and the tax rates will be lowered. This is done to raise additional revenue and increase the economic efficiency of the tax system by increasing the average rate of taxation while reducing the marginal rates of taxation. Third, administrative measures are recommended to increase the degree of tax compliance by reducing the scope for tax avoidance behavior of private sector taxpayers.

Reform of contribution rules for social security and provident fund

In the current TRNC taxation system, employers contribute 4 percent to the provident fund and 7.5 percent to the social security pension system on behalf of their employees. These contributions should be treated for tax purposes as an employee benefit. The cost of these contributions is deducted by the firm when calculating its taxable income, but this employee benefit is not currently included in the taxable income of the employee. In the proposed reformed tax system, the provident fund and social security pension contributions and life premiums made on behalf of an employee or owner of a company would become taxable to the individual. However, the benefits received from the provident fund, social security, life insurance, and civil service pensions would remain tax-exempt. In the proposed tax reform, the relationship between the income tax and the pension system is brought into line with normal international standards by receiving a tax benefit only once.[16]

To arrive at the "normal" tax treatment of pensions, the gross income of employees would be increased by 11.5 percent to reflect the contributions of employers to the social security pension system (7.5 percent) and the provident fund (4 percent).

Currently, male pre-2008 civil servants contribute 9 percent of their gross income to finance their future monthly pensions and also the gratuity received as a lump-sum payment at retirement. Women contribute only 5 percent. Neither contribute to the cost of their health insurance. To provide a horizontally equitable treatment in the financing of pensions, the contribution rates should be equalized. Therefore, the first component of our proposed reform for this group is to impose a uniform 9 percent pension contribution and a 4 percent health contribution on the gross income of all pre-2009 civil servants (male and female). This component of the reform is to improve the horizontal equity of the tax system between public and private sector employees while augmenting total revenue collections. The contribution rates of social security and provident fund in this reform proposal are presented in Table 3.

[Insert Table 3 about here]

The last row of Table 3 represents the tax deductions to be made under the proposed tax reforms explained in the following section.

Reform measures for income taxation

The proposed taxation system has a simple design. Table 4 compares the structure of tax rates and tax brackets of the current and proposed taxation systems. Four alternative tax reforms are analyzed in this paper, each with its own set of statutory income tax rates but with only two tax brackets. The four proposed scenarios are designed to yield sequentially greater revenues while simplifying the tax system and reducing tax evasion.

[Insert Table 4 about here]

For the estimation of taxable income in the first income tax reform proposal (Table 4, scenario 1), the only deduction allowed is the minimum wage (TL 16,884 or US$ 6,051 in 2015 prices) and there is only one tax rate. The zero-tax bracket for the first TL 20,000 (US$ 7,168) of taxable income is equivalent to a further deduction of that amount. If this tax bracket were adjusted to 2018 prices it would be 1.69 times higher, or TL 33,800.[19]

Such income tax systems with only one or two rates and very few special tax deductions have been adopted in several countries. For over 20 years, this has been the nature of the income tax system in Belize. Like Cyprus, it is a former British colony, the economy is heavily dependent on tourism, and with a population of 375,000, it is very similar in size to North Cyprus. Its income tax system is very similar to scenario 1, where the sum of the minimum wage and the TL 20,000 zero-rate bracket means that only income more than TL 36,884 (US$ 13,219) would be taxed at a rate of 25 percent.[18]

In the other proposed tax rate structures, scenarios 2, 3, and 4 (Table 4), the only components of the social security and provident fund contributions that can be deducted in the calculation of taxable income are the payments made by individuals for the non-pension insurance items of the social security system (either 4 percent or 6 percent of gross income, Table 3, row 4). The other deductions allowed in the calculation of taxable income for the proposed income tax system are the minimum wage and the rather minor deductions for the municipal tax, a marriage deduction, and a child deduction (see Table 2 for explanations of these deductions). In all cases, the income received from pension benefits is tax-exempt.

Our proposed tax brackets (Table 4) are based on the taxable income less than and higher than TL 20,000. For those with taxable income higher than TL 20,000, the tax rate of the first bracket is applied to the first TL 20,000 of taxable income and the tax rate of the second bracket is applied to the rest of taxable income. The statutory rates for the first tax bracket are between 0 and 20 percent, while the rates of tax for taxable income of more than TL 20,000 (2015 prices) are either 20 or 25 percent. Having a single tax bracket makes the adjustment for inflation much easier for taxpayers to understand the nature of the adjustment. The importance of an inflation adjustment of tax brackets is well recognized as it constrains the occurrence of “bracket creep”.[19]

These income tax rate structures with two tax rates are like that of Jamaica, where a single-rate tax system was introduced in 1987 and a second marginal rate for high-income earners has since been included.[20] It should be noted that in the Republic of Cyprus in 2015, no income tax was levied on taxable income of less than € 19,200. For the same rate of social security deductions (approximately 20 percent), they would receive a set of public services, including healthcare, that are being provided at European Union standards.[21]

Tax administration reform

The third area of the proposed tax reform addresses an important defect in the administration of the income tax system.

According to Ekici and Besim, self-employed and privately employed individuals in North Cyprus have been underreporting their income levels by 20 percent and 13 percent, respectively.[22] For calculating social security, provident fund, and income obligations, they report a small official salary to the tax administration while receiving a second payment from their employer that is not reported. This practice is facilitated by the fact that employers can deduct the full amount of employees' total compensation as a business expense, even if not reported as income to the individuals.

To address this problem, the tax authorities simply need to require employers to report information that will allow the tax authorities to link the employee taxpayer files to the taxpayer files of their employers. Employers should only be allowed to deduct wages equal to the amount that employees have declared as taxable income. In a small country like North Cyprus, this would involve the creation of a very simple computerized database. If denied a deduction for employees' wages and salaries, employers would have an incentive to report individuals' full income to the tax authorities as they would save substantial taxes on corporation income and dividends.

However, given the population's lack of confidence in the social security system in North Cyprus, employees and employers are likely to resist paying additional contributions to fund social security and provident fund pensions. They perceive the prospect of benefiting from such investments as very uncertain compared to other possible assets in which they could invest.

To enhance compliance with the income tax, it might be reasonable to provide private employees and the self-employed with the option of declaring the contribution level that they want for the case of social security and provident fund pensions (subject to a minimum) based on the minimum wage. This is essentially the situation now for the self-employed and private employees. It is proposed here that these current practices be made legal. If employees choose to declare a lower amount of contribution, they will receive lower pension benefits in the future. As the social security pension system is heavily subsidized, over time this will save the government a considerable amount of money through the payment of lower pension benefits.[23] At the same time, this policy would leave more funds in the hands of private sector employees and the self-employed to make their own private investments. However, everyone would be obliged to declare their real income level for income tax purposes. Therefore, we suppose that compliance is only improved in the case of income tax.

Revenue implications of tax reform options

A database of all individual taxpayers registered in the TRNC social security system in 2015 is used in an individual taxpayer microsimulation model to quantify the potential effects of proposed tax reforms.

In our initial revenue estimates we consider only the impacts on tax revenue from the tax policy changes without considering the enhanced revenue arising from the higher reported incomes that would be induced by the improvements in tax administration.

Table 5 presents different sources of government revenue in terms of social security, provident fund, and income tax, and compares them between the current system and the four proposed systems. Gross income and provident fund contributions are the same for all scenarios, but social security pension and other contributions are higher in the proposed systems (Table 5, row 7), because in the proposed reform, pre-2009 civil servants contribute 4 percent (rather than 0 percent) for their non-pension employee benefits and female civil servants contribute 9 percent (rather than 5 percent) to the pension system. This results in an increase of 3.5 percent in social security pension revenues and of 17.6 percent in the premiums for health and other insurance systems. As no information is currently available on the magnitude of life insurance premiums now deducted from taxable incomes, no revenue estimates of this aspect of the proposed tax reform are made.

As shown in Table 5, row 6, each of the proposed revenue systems would collect more revenues than the current system. In scenario 1, the simplest of the income tax structures with only one tax rate of 25 percent, the total revenue collected would be 2.8 percent more than the current system (Table 5, row 6, column 3).

[Insert Table 5 about here]

Scenarios 2, 3, and 4 are all estimated to collect the same amount of social security and provident fund contributions as scenario 1, but significantly more income taxes. The total revenue of the system increases by 8.3 percent, 12.3 percent, and 16.7 percent for scenarios 2, 3, and 4 (Table 5, row 6), respectively.

In terms of tax reform, scenario 1 represents a significant improvement in tax simplification and tax policy. It removes the excessive tax subsidies given to the social security, provident fund, and life insurance pension systems, while eliminating most tax deductions and statutory income tax rates. Having a single tax deduction of the minimum wage, a zero-tax bracket, and one rate of income tax would greatly reduce the unnecessary complexity and increase the transparency of the direct tax system.

As the minimum wage tends to be indexed to inflation, the only item that would need to be indexed for inflation in all the scenarios would be the single tax bracket. For further simplification, policymakers might simply state that no income tax is paid unless the amount of gross income declared is twice the minimum wage.

Scenarios 2, 3, and 4 also represent a very substantial simplification as compared to the current income tax system. However, the designs of these scenarios are more complex than that of scenario 1. This complexity arises because of the need to increase the amount of revenue that can potentially be raised, while at the same time introducing a larger array of tax deductions to increase the perceived fairness of the tax system. In these cases, the major deduction is the minimum wage, which tends to be adjusted over time to reflect inflation. In addition, there are common deductions for the individual if the taxpayer has a non-working spouse and a deduction per child that is multiplied by the number of child dependants of the taxpayer. Finally, the small municipal tax of 0.2 percent can eliminate any objection to the municipal tax payments being taxed by central government. The trade-off, in this case, is that there is no zero-tax bracket. The first TL 20,000 of taxable income after taking these deductions is taxed at a rate of either 15 percent in scenarios 2 and 3 or 20 percent in scenario 4.

The next step is to consider the impacts of increasing the level of reported gross income on income tax revenue. If the reported incomes of the self-employed were increased by 20 percent and the gross income of employees by 13 percent (as suggested by Ekici and Besim[24]), the total reported gross income would increase from TL 3,680 million to TL 4,016 million.

The results are presented in Table 5, row 10, columns 3, 5, 7, and 9. In this case, the increase in revenues from the reform options compared with the current system would range from 6.5 percent to 22.8 percent in overall revenues. The effect of the enhanced compliance alone will be to increase the total revenues of the entire direct taxation system from 3.6 percent to 5.2 percent over the current level of revenues (Table 5, row 11). In 2015 prices, this amounts to between TL 40.3 million and TL 66.2 million of additional income tax revenues per year.

Impact of tax reform on the relative tax burdens by taxpayer type

In addition to tax simplification and raising the overall level of revenues, the final two objectives of a tax reform are to build a system that is perceived to be fair, and at the same time to keep the marginal tax rates as low as possible, particularly for high-income private sector employees and the self-employed, so as not to give these groups too great an incentive for tax evasion. It has been found that lower marginal tax rates in Sweden significantly increased reported wage incomes.[25]

Table 6 shows the average tax for different categories with improved compliance only for tax purposes in the proposed scenarios and compares them with the current system. The average tax rates by type of taxpayer are calculated for all the direct taxes and reported in the top half of the table. The social security and provident fund contribution rates presented in Table 3 are applied on gross income, but the income tax rates presented in Table 4 are applied to taxable income. The average income tax rates are reported in the bottom half of Table 6.

[Insert Table 6 about here]

The pattern of average tax rates when considering all taxes combined are comparable across all employee types. This is an improvement in the horizontal equity of the direct tax system. The average total tax rates of the self-employed (Table 6, column 4) are slightly lower than the average total tax rates of civil servants (columns 5 and 6). This is because, on average, civil servants earn higher incomes.

For private employees, the total average tax rate paid is substantially lower (column 1) than for the self-employed and civil servants. However, when the employers' share of the social security and provident fund contributions (column 2) are added to what the individual pays, private employees and their employers will be paying a higher average tax rate (column 3) than the average total tax burden of the self-employed or civil servants. In the case of civil servants, we do not add the contribution that the government makes to their social security and provident fund as a net gain in revenue as it is simply coming out of one account in the treasury and going into another arm of the government (the social security and provident funds). Hence, even with the reforms outlined here, the total fiscal burden on the value added of labor generated by private employees is still substantially higher than that faced by either the self-employed or civil servants. Whether the payments made for the social security and provident funds are made by the employer or the employee, the value added of the privately employed labor must be large enough to justify it. This is not the case with civil servants, where the criterion for employment is not necessarily the relationship between their wage and the value of their marginal product.

When considering the income tax alone, a different picture emerges. The average income tax paid by individual private employees (column 1) is substantially below that of the self-employed (column 4). This is no doubt because of the lower incomes of private employees and the progressivity of the tax structure. In turn, both private employees and the self-employed pay substantially lower income taxes than do either group of civil servants (columns 5 and 6). However, in each of the reform options, the average amount of income tax paid is substantially larger than that raised by the current income tax system. For private employees, the average current amount of income taxes paid is 3.8 percent of gross reported income, while in the four reform options the average rate increases from 4.8 percent to 9.2 percent in fourth scenario. For the self-employed, the average income tax currently paid is 5.1 percent, while in the reform options the average rates range from 5.6 percent to 11.0 percent. For civil servants, the average income taxes currently paid are 8.4 percent for new civil servants and 16.6 percent for civil servants employed prior to 2009. Under the reform options, the average rate of income tax for new civil servants ranges from 9.7 percent to 15.4 percent; for pre-2009 civil servants the average rates of income tax fall in the first three scenarios, from 16.6 percent to 14.0 percent, 13.5 percent and 15.9 percent, respectively, and then in scenario 4, their average rate of income tax increases to 17.2 percent. In our reform options, their income taxes are either reduced or increased the least, but their contributions to their pension plans and the health part of their social security are increased. Hence, the proposed reforms improve the fairness of the tax system while at the same time providing the potential for an overall increase in direct tax revenues.

The impact of tax reform on the incentive to work and taxpayer compliance

In the administration of a tax system, the marginal tax rate is the incentive taxpayers face when engaging in tax avoidance or tax evasion activities. The challenge for tax policy professionals is to see if one can raise the average tax rates of high-income earners while simultaneously reducing their marginal tax rates.[26] The taxpayers most sensitive to these incentives are private employees and the self-employed. There is little or no room for tax evasion or avoidance by civil servants.

To find the total effective marginal rates on gross income, one first needs to calculate the effective marginal income tax rates on gross income and then add them to the associated rates for the social security and provident funds. For the social security and provident funds, the average tax rates are the same as the marginal tax rates. For private employees and the self-employed, we assume that the current levels of contributions for social security and provident funds are maintained and there will be zero marginal contributions for increases in gross income. The marginal tax rates for the various types of taxpayers are reported in Table 7.

For all private sector employees and the self-employed, the marginal tax rates in all the reform options are dramatically lower than they are under the current tax system (Table 7, columns 1, 2, and 3). For individual employees, the marginal tax rates for high-income earners is approximately 11 percentage points lower. Taking the employer and employee contributions together, the marginal fiscal burden for the high-income worker falls from 54.8 percent to 31.7 percent. For the self-employed, the marginal tax rate falls from 47.8 percent to 29.7 percent. This drop in the marginal tax rates should make it much easier to administer the proposed reform systems and to prevent tax evasion than is the case in the current situation.

[Insert Table 7 about here]

As mentioned in Table 3, total social security and provident fund contributions are similar (13 percent) for both pre-2009 and post-2008 civil servants, and this is why all civil servants face the same total marginal rates in Table 7, columns 4 and 5. For new civil servants (column 4), the reduction in the marginal tax rates is relatively small, ranging from 39.8 percent to 37.2 percent. For civil servants hired prior to 2009, the marginal tax rate they will face is increased, from 36.4 percent to 37.2 percent. However, tax evasion and tax avoidance for civil servants is not a serious problem.

Conclusions

The tax reform measures developed and analyzed in this paper demonstrate that it is possible to create a simpler, more equitable, and revenue-productive direct tax system while improving the incentives for enhanced taxpayer compliance. The revenue implications are quantified and a taxpayer group incidence analysis conducted for each proposal. This is carried out using a well-structured microsimulation model of all individuals in the TRNC who were subject to any component of the direct tax system in 2015.

The estimated revenue-raising impacts of these four reform proposals (in 2015 prices) are TL 71 million, TL 142 million, TL 190 million, and TL 248million, respectively. As compared to the annual deficit of the social security pension system in 2015, these reform options would have covered approximately 20 percent, 39 percent, 52 percent, and 67 percent of the revenue gap, respectively, in that year.

While a fundamental reform of the benefit formula of the social security pension system is essential to make this pension system sustainable, the more aggressive tax reform options (3 and 4) would go a long way to bridging the revenue gap during the intermediate time horizon. It would take time for any change in the pension benefit formulae to have a significant impact on the social security pension deficits. This strategy of enhancing the direct tax system revenues as the deficits of the social security system are reduced over time would appear to be a key element in stabilizing the fiscal system of the TRNC in the near future. The choice of scenario is a policymaker's decision based on the revenue needs of the state and the ability and willingness of the tax administration to administer the tax laws.

Notes

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Table 1. Rates of social security and provident fund contributions as a percentage of declared gross income

			1	2	3	4	5
			Employee and post-2008 civil servant	Employer	Employee+Employer	Self-employed	Pre-2009 civil servant
1	Social security (SS)	a. Pension	5	7	12.5	12.5	9 (M), 5 (F)
		b. Other (Health etc.)	4	3.5	7.5	6	0
2	Provident fund (PF)		4	4	8	0	0
3	Total SS and PF		13	15	28	18.5	9 (M), 5 (F)

Table 2. Summary of individual income taxation rules in TRNC for 2015

<table>
<tr><td>1</td><td colspan="2">Taxable income
Employees and post-2008 civil servants</td><td colspan="2">$=GI-SS_e-PF-D_1-D_3-D_4-D_5-D_6$</td><td rowspan="3">Definition of components of calculation of taxable income</td></tr>
<tr><td>2</td><td colspan="2">Taxable income
Self-employed</td><td colspan="2">$=GI-SS_{se}-PF-D_2-D_3-D_4-D_5-D_6$</td></tr>
<tr><td>3</td><td colspan="2">Taxable income
Pre-2009 civil servants</td><td colspan="2">$=GI-PC-D_1-D_3-D_4-D_5-D_6$</td></tr>
<tr><td>4</td><td colspan="4">Gross income</td><td>GI</td></tr>
<tr><td>5</td><td colspan="4">Total social security contributions made by individual employees and post-2008 civil servants (SS_e)</td><td>GI (0.09)</td></tr>
<tr><td>6</td><td colspan="4">Total social security contributions made by individual self-employed (SS_{se})</td><td>GI (0.185)</td></tr>
<tr><td rowspan="2">7</td><td colspan="2" rowspan="2">Total pension contributions made by individual pre-2009 civil servants (PC)</td><td colspan="2">Male</td><td>GI (0.09)</td></tr>
<tr><td colspan="2">Female</td><td>GI (0.05)</td></tr>
<tr><td>8</td><td colspan="4">Total provident fund contributions made by individual employees and post-2008 civil servants (PF)</td><td>GI (0.04)</td></tr>
<tr><td>9</td><td colspan="4">Special deduction for employees and post- and pre-2009 civil servants (D_1)</td><td>(GI−SS−PF)(0.17)</td></tr>
<tr><td>10</td><td colspan="4">Special deduction for self-employed (D_2)</td><td>(GI−SS−PF)(0.10)</td></tr>
<tr><td>11</td><td colspan="4">Municipal tax (D_3)</td><td>(GI)(0.002)</td></tr>
<tr><td>12</td><td colspan="4">Min wage (D_4)[a]</td><td>16,884 TL</td></tr>
<tr><td rowspan="3">13</td><td colspan="2" rowspan="3">Marriage deduction (D_5)</td><td rowspan="2">Male</td><td>Married</td><td>1,464 TL</td></tr>
<tr><td>Single</td><td>732 TL</td></tr>
<tr><td colspan="2">Female</td><td>1,464 TL</td></tr>
<tr><td rowspan="2">14</td><td colspan="3" rowspan="2">Child deduction (D_6)</td><td>Father</td><td>1,013 TL</td></tr>
<tr><td>Mother</td><td>0</td></tr>
</table>

Notes: [a]The exchange rate averaged TL 2.74/US$ during 2015. SS, social security; PC, pension contributions; PF, provident fund contributions; D, deduction.

Table 3. Proposed contribution rates of social security and provident fund in the reform

(percentage of gross income)

		1	2	3	4	5
		Employee and post-2008 civil servant	Employer	Employee+employer	Self-employed	Pre-2009 civil servant
Social security (SS)	a. Pension	5	7.5	12.5	12.5	9
	b. Other (health, etc.)	4	3.5	7.5	6	4
Provident fund (PF)		4	4	8	0	0
Total SS and PF		13	15	28	18.5	13
Tax deductions in scenarios 2, 3, and 4		4	3.5	7.5	6	4

Table 4. Structure of rates of income tax

<table>
<tr><td></td><td colspan="2">Current system</td><td rowspan="2"></td><td colspan="4">Proposed Scenarios</td></tr>
<tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>1</td><td>Taxable income (TL)</td><td>Tax rate (%)
1</td><td>Taxable income (TL)
2</td><td colspan="4">Tax rate (%)
3</td></tr>
<tr><td>2</td><td>First 3,000</td><td>10</td><td rowspan="3"><20,000</td><td rowspan="3">0</td><td rowspan="3">15</td><td rowspan="3">15</td><td rowspan="3">20</td></tr>
<tr><td>3</td><td>3,000 to 6,000</td><td>20</td></tr>
<tr><td>4</td><td>6,000 to 13,600</td><td>25</td></tr>
<tr><td>5</td><td>13,600 to 23,650</td><td>30</td><td rowspan="2">>20,000</td><td rowspan="2">25</td><td rowspan="2">20</td><td rowspan="2">25</td><td rowspan="2">25</td></tr>
<tr><td>6</td><td>Over 23,650</td><td>37</td></tr>
</table>

Table 5. Revenues by component for current tax system and four proposed tax reform options (million TL)

	Scenario	Current	1	%Δ	2	%Δ	3	%Δ	4	%Δ
		1	2	3	4	5	6	7	8	9
1	GI	3,680	3,680	0	3,680	0	3,680	0	3,680	0
2	SS pension	414	429	3.5	429	3.5	429	3.5	429	3.5
3	SS other	203	239	17.6	239	17.6	239	17.6	239	17.6
4	PF	191	191	0	191	0	191	0	191	0
5	Income tax	278	258	−7.1	318	14.4	361	30.2	409	47.2
6	Total	1,086	1,117	2.8	1,177	8.3	1,220	12.3	1,268	16.7
7	Total SS/GI	16.70%	18.14%	8.1	18.14%	8.1	18.14%	8.1	18.14%	8.1
8	Total/GI	29.50%	30.35%	2.8	31.97%	8.3	33.16%	12.3	34.45%	16.7
9	Income tax/GI	7.50%	7.01%	−7.1	8.63%	14.4	9.82%	30.2	11.11%	47.2
10	Total (with compliance only with income tax)	1,086	1,157	6.5	1,228	13.0	1,278	17.6	1,334	22.8
11	Change enhanced compliance of income tax	0	40	3.6	52	4.4	58	4.7	66.2	5.2

Notes: GI, gross income; SS, social security; PF, provident fund contributions.

Table 6. Average tax for different categories with improved compliance for income tax purposes (%)

		1	2	3	4	5	6	7
Scenario		Employee	Employer	Employee+Employer	Self-employed	New civil servant	Old civil servant	Percentage change in revenues from current
Current	Total revenue/gross income	16.77	15.00	31.77	23.58	21.35	24.00	
1		16.28	13.55	29.83	21.00	22.74	26.95	6.51
2		18.60	13.55	32.15	23.89	24.93	26.51	13.01
3		19.43	13.55	32.98	24.64	26.53	28.98	17.69
4		20.69	13.55	34.24	26.47	28.37	30.18	22.77
Current	Income tax/gross income	3.77	0.00	3.77	5.08	8.35	16.62	
1		4.78	0.00	4.78	5.58	9.74	13.95	7.42
2		7.10	0.00	7.10	8.47	11.93	13.51	32.87
3		7.93	0.00	7.93	9.22	13.53	15.98	51.18
4		9.19	0.00	9.19	11.05	15.37	17.18	71.06

Table 7. Effective marginal tax rates for total of all direct taxes (%)

		1	2	3	4	5
Scenario		Employee	Employee+Employer	Self-employed	New civil servant	Old civil servant
Current	Total effective marginal rate on GI−TB3	31.20	46.20	36.99	31.20	27.24
	Total effective marginal rate on GI−TB5	39.84	54.84	45.77	39.84	36.38
1	Total effective marginal rate on GI−TB1	4.20	7.70	6.20	13.20	13.20
	Total effective marginal rate on GI−TB2	28.15	31.65	29.65	37.15	37.15
2	Total effective marginal rate on GI−TB1	18.57	22.07	20.27	27.57	27.57
	Total effective marginal rate on GI−TB2	23.36	26.86	24.96	32.36	32.36
3	Total effective marginal rate on GI−TB1	18.57	22.07	20.27	27.57	27.57
	Total effective marginal rate on GI−TB2	28.15	31.65	29.65	37.15	37.15
4	Total effective marginal rate on GI−TB1	23.36	26.86	24.96	32.36	32.36
	Total effective marginal rate on GI−TB2	28.15	31.65	29.65	37.15	37.15

Notes: GI, gross income; TB, Tax bracket.