

Diagnostic and Proposal for the Reform of the Personal Income Tax System in the TRNC

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Abstract

At the present time the tax mix in the TRNC consists of an income tax at both the individual and corporate levels. The corporation income tax is partially integrated with the personal income tax system. In addition, at both the individual and the firm level there are social security contributions that are quite substantial.

The focus of this paper is on the personal tax system, which in year 2000 was responsible for raising 32 percent of total taxes or 6.7 percent of GNP. There is a need for North Cyprus to follow the lead of tax reforms in countries all over the world and reduce the "theoretical" progressivity of the personal income tax structure. In addition the government needs to help the tax administration build up the level of tax compliance in the country.

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Diagnostic and Proposals for the Reform of the Personal Income Tax System in the TRNC

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EXECUTIVE SUMMARY

In the TRNC the marginal personal income tax rates at the highest tax bracket (about US\$10,000 of gross income) are 34 percent for private employees, 36 percent for public sector employees, and 40.5 percent for the self-employed. This structure of the personal income tax rates and tax brackets TRNC are out of line with much of the rest of the world.

Excluding the public sector, public companies state enterprises and the staff of EMU, it is practically impossible for the tax administration to effectively administer an income tax system with such an escalating rate structure and high overall “theoretical” tax burdens. Private sector employers and their employees simply enter into an understanding to report a minimum salary for social security and tax purposes, and then the employees get paid the rest of their compensation in cash without recording the payments. This practice happens whenever the combined personal income tax and social security rates are too high.

There is a need for North Cyprus to follow the lead of tax reforms in countries all over the world and reduce the “theoretical” progressively of the personal income tax structure. It needs to simplify and reduce the

number of brackets and rates so that it can function more easily in an inflationary environment. The system of allowances should also be simplified, and a number of them eliminated, as they no longer serve their original purpose.

In brief, the government needs to help the tax administration build up the level of tax compliance in the country. The tax administration is at the present time poorly equipped in the area of computer technology and must function without the benefit of a systematic training program covering the different functions of the administration. In both these areas the tax administration is much worse off than almost all developing countries with per capita incomes of less than 25 percent of that of the TRNC. It is also important for there to be taxpayer education on how the taxes that are collected are spent. When people do not see the benefits from paying taxes, they will try to avoid paying them. At the moment, breaking the tax laws is an accepted practice by the community, because the tax system is viewed as being so unfair.

The following proposals for the reform of the personal income tax system are designed to allow the personal income tax over time to become a reliable part of the overall tax system. The short run implications for the budget deficit are either overall neutral or improving. An increase in the rate of compliance would further raise revenues. To bring about these results the overall set of reforms should be considered as a package.

The components of the reform proposals are as follows:

1. The current personal allowance of 80 percent of the minimum wage, and the current level of allowances for the spouse and the first two children would be retained. A deduction of 13 percent would be allowed for social security and provident fund contributions. The current super allowance of 5 percent of income for families of more than two children would be abolished. The same allowance per child

would be given for all the children in the family. The current allowances of 20 percent of income if the person is an employee, or 10 percent if one is self employed would be abolished. The tax deduction given for life insurance premiums should be abolished, as the benefits of such life insurance policies are not taxed. A subsidy for this one kind of financial instrument over all other financial instruments is not appropriate in a modern economy.

2. Our first, and preferred option, would apply only a single rate of tax of 20 percent on all wage income, or self-employed earnings above the deductions outlined in the above paragraph. A second option is to set the statutory tax rate at 18 percent up to the point where the social security contributions reach a maximum (14.2 b TL of gross income, or 10.2 b TL of taxable income) and then set a higher rate of 22 percent on all taxable income above that level.
3. For the civil servants, and EMU employees who will have a smaller amount of taxes being withheld, then the adjustment of their gross salaries for the rate of inflation should be reduced to reflect the reduction in tax burden. In this way it is recognized that the real net income of the employees has been increased by the reduction in personal income taxes.
4. An inflation adjustment should be applied to the tax liabilities of the self-employed to the extent that the taxes have not been pre paid within the taxation year. This adjustment should be for the change in the price index between the months of June of the year in which the income is earned to the date that the taxpayer pays his or her tax liabilities to the government.

I. Overview

At the present time the tax mix in the TRNC consists of an income tax at both the individual and corporate levels. The corporation income tax is partially integrated with the personal income tax system. In addition, at both the individual and the firm level there are social security contributions that are quite substantial. The Value Added Tax system, introduced in 1996, is quite comprehensive in coverage, and has a number of innovative positive features. The excise taxes are still an important source of revenue as is the withholding tax on rental incomes.

The breakdown of revenues by type of tax are reported in Table 1 for year 2000 and expressed as a share of total revenues and as a share of GDP.

The ratio of tax revenue to GNP in 2000 was approximately 21 percent, which is about the average for countries with a per capita income of about US \$ 6,500. However, this does not include the social security contributions, the Provident Fund contributions, and the special excise taxes on gasoline that are not reported as part of the consolidated revenues of the government. When these payments to the government are included as part of public sector revenue, the TRNC will move to one of the higher taxed developing countries.

The focus of this report is on the personal income tax system, which in year 2000 was responsible for raising 32 percent of total taxes or 6.7 percent of GNP.

Table 1: Composition of Revenue in the TRNC in 2000

Type	Amount (000,000 TL)	% Of Tax Revenue	% Of GNP
Total Direct Tax	71,065,804.40	54.54%	11.39%
Income Tax	41,776,190.00	32.06%	6.70%
Corporate Tax	15,547,762.80	11.93%	2.49%
Prior Year Income Tax	3,742,511.60	2.87%	0.60%
Estate duties	267,770.00	0.21%	0.04%
Vehicle Tax	7,336,900.30	5.63%	1.18%
Property Tax	95,456.70	0.07%	0.02%
Stamp duties	2,299,213.00	1.76%	0.37%
Total Indirect Tax	59,230,835.70	45.46%	9.50%
Customs Duties and Excise Taxes	4,069,959.40	3.12%	0.65%
Port Charge	3,844,770.20	2.95%	0.62%
VAT	43,034,243.00	33.03%	6.90%
Miscellaneous indirect tax	3,791,140.10	2.91%	0.61%
Other, incl. Financial Transactions tax	4,490,723.00	3.45%	0.72%
GRAND TOTAL	130,296,640.10	100.00%	20.89%
GNP	623,752,345.00		

II The Personal Income Tax

The personal income tax is levied at statutory rates ranging from 20 percent to 45 percent. A complicated system of personal income tax deductions or allowances are applied, (including deductions for social security and provident fund contributions) that reduces the top marginal rate of personal income for private employees to about 34%. An individual hits this top marginal tax rate at 8.44 billion TL of taxable income or gross income of about 16 billion TL in 2001, (approximately US \$ 10,000). With the recent devaluations and subsequent inflation, this rate structure is far out of line with other developed and developing

countries, where a rate of 36.0 percent, if it exists at all, does not come into effect until income levels are several times higher. Table 2, contains the personal income tax rates and brackets for Malaysia, South Cyprus, Canada, Singapore, Taiwan and New Zealand. All these countries are like the TRNC in that they have a tax mix that includes an important VAT or sales tax system.

It is difficult to compare the marginal tax rates for taxable income across countries because each country has different set of exemptions, deductions and allowances that are part of the definition of what is taxable income. However, to simply illustrate a point, we will compare the marginal tax rates in North Cyprus on the level of *gross income* with the marginal tax rates on the same amount of *taxable income* in other countries. This will clearly bias upward the marginal income rates for the other countries we compare with North Cyprus. Even with this bias we see that the statutory rates and brackets in the TRNC are far out of line with international practice.

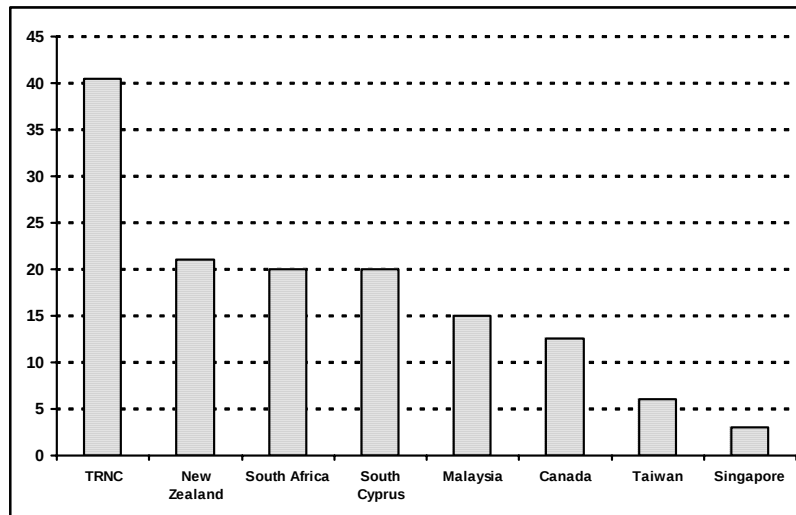
Table 2: International Comparison of Personal Income Tax Brackets and Rates

Country	Brackets in Local Currency	Brackets in USD	Tax Rates (%)
Malaysia (2000) (Currency RM; US \$ 1 = RM 3.8)			
	1-2,500	1-657.89	0
	2,501-5000	657.90-1315.79	1
	5,001-10,000	1315.80-2631.58	3
	10,001-20,000	2631.59-5263.16	5
	20,001-35,000	5263.17-9210.53	9
	35,001-50,000	9210.54-13157.89	15
	50,001-70,000	13157.90-18421.05	20
	70,001-100,000	18421.06-26315.79	25
	100,001-150,000	26315.79-39473.68	28
	Above 150,000	Above 39473.68	29

Country	Brackets in Local Currency	Brackets in USD	Tax Rates (%)
Cyprus (2000) (Currency Cyprus Pound; US \$ 1.5758 = CP 1)			
	Unto 6,000	Up to 9454.8	0
	6,001-8,000	9454.81-12606.4	20
	8,001-11,000	12606.41-17333.8	30
	11,001 to more	17333.81 to more	40
Canada (2000) (Currency CAD; US \$ 1 = CAD 1.56568)			
Fed + Province	Unto 30,484	Unto 19470.13	12.6
	30484.01-60,969	19470.14-38940.91	18.0
	60,969.01-70,000	38940.92-44709.01	25.0
	70,000.01 to 85,000	44709.02-54289.51	28.0
	Over 85,000	Over 54289.51	29.5
Singapore (2002) (Currency SD; US \$ 1 = SD 1.7450)			
	0-7,500	0-4,298	0
	7,500-20,000	4,298-11,461.32	3
	20,000-35,000	11,461.32-20,057.31	6
	35,000-50,000	20,057.32-28,653.30	9
	50,000-75,000	28,653.31-42,949.94	12
	75,000-100,000	42,949.95-57,306.59	15
	100,000-150,000	57,306.60-85,959.89	18
	150,000-200,000	85,959.90-114,613.20	21
	200,000-400,000	114,613.21-229,226.40	24
	400,000 to above	229,226.41 to above	26
New Zealand (2000/01) (Currency NZD; US \$ 1 = NZD 2.4705)			
	0-9,500	0-3,845.38	15
	9,500-38,000	3,845.38-15,381.50	21
	38,000-60,000	15,381.51-24,286.58	33
	60,000 to above	24286.59 to above	39
Taiwan (1998) (Currency TD; US \$ 1 = TD 32.8492)			
	0-370,000	0-11,263.59	6
	370,000-990,000	11,263.59-30,137.72	13
	990,000-1,980,000	30,137.73-60,275.44	21
	1,980,000-3,720,000	60,275.45-113,244.80	30
	3,720,000 to higher	113,244.81 to higher	40

From Table 2 and Figure 1 we find that, in Malaysia the marginal tax rate at US \$ 10,000 is 15 percent. In South Cyprus it is 20 percent. In Canada it is 12.6 percent. In Singapore it is 3 percent, New Zealand it is 21 percent and Taiwan it is 6 percent. In the TRNC it is 34 percent for private employees, 36 percent for public sector employees, and 40.5 percent for the self-employed. Clearly the structure of the personal income tax rates and tax brackets TRNC are out of line with much of the rest of the world.

Figure 1: International Comparison of Marginal Income Tax Rates at US \$10,000



The tax administration of all the countries listed above have highly efficient tax administrations with the latest of information technology. This is combined with legal systems that encourage compliance. In contrast the TRNC the information technology system is basic and administrative practices rather underdeveloped. Under these circumstances we would expect that these other countries would have the capability to enforce higher marginal income tax rates then can TRNC.

Yet they do not attempt to administer marginal tax rates that are nearly as high as those found in North Cyprus.

The situation is made considerably worse in the TRNC because of the nature of its social security system where the combined rates of contribution for social security by the employee (8%) and employer (9.5% to 12%) amounts to additional taxation that ranges from 18 to 20 percent of gross personal income. In addition to this, there is a provident fund that requires an additional contribution equal to 10 percent of the gross income of the employees. The actual contribution is paid half by the employee (5%) and half by the employer (5%). Furthermore, the social security benefits that an individual receives bears little direct relationship to level of contributions made. This is particularly the case in the current inflationary environment. For all intents and purposes the social security contribution system in North Cyprus today is supplementary personal income tax that is collected from both the employees and the employers.

The Provident Funds are invested in Government financial institutions and earn interest. However, with the high rates of inflation over the past decade, it is very difficult for the taxpayer to evaluate what is the real rate of return they will receive from these funds. Hence, it is likely that most people will consider these contributions to be partially just another tax.

Marginal and Average Personal Income tax, Social Security and Provident Fund Contributions

The personal income tax brackets for 2001 and the statutory tax rates applicable to these brackets in the TRNC are given in Table 3.

Table 3: Income Tax Brackets and Statutory Tax Rates in 2001

Minimum	Maximum	Tax Rate	Incremental Tax	Total Tax
0	835,000,000	20%	167,000,000	167,000,000
835,000,001	1,670,000,000	25%	208,750,000	375,750,000
1,670,000,001	2,865,000,000	30%	358,500,000	734,250,000
2,865,000,001	4,765,000,000	35%	665,000,000	1,399,250,000
4,765,000,001	8,440,000,000	40%	1,470,000,000	2,869,250,000
8,440,000,001	Above	45%		

However, these income tax brackets and rates do not give us the actual marginal tax rates facing taxpayers with different levels of gross income, because of the plethora of allowances that are available.

To get a picture of the incentives facing taxpayers to evade personal taxation we have carried out an estimation of the marginal tax rate calculation of the combined personal income tax and social security conclusion system for different levels of gross (before tax) personal income. These computations are presented in Table 4A for the Marginal Tax Rates, and Table 4B contains estimate of for the Average tax rates that taxpayers would be paying if they fully complied with the tax system. The calculations are done for a married person who is a private sector employee with a spouse and one child. The person's spouse is not working.

The calculations made in Tables 4A and 4B apply the tax laws in force in 2001 to different levels of gross income. First a social security allowance is deducted of 8 percent of gross income up to the maximum limit of annual income that has been authorized by the Counsel of Ministers for the year following August 2001, of 14,212.8 million TL. For higher incomes no further increase in the allowance is given, but the individual is exempted from further social security contributions. Then a 5 percent deduction of gross income is allowed for the employee's contribution to the Provident Fund. There is no limit on the level of gross income that this 5 percent deduction can be applied to. Next the standard allowance for public and private sector employees of 20 percent of gross income is taken. This is followed by a reduction of taxable income by the basic personal allowance of eighty percent of the minimum wage, and by the amount of the standard allowances for the spouse and children. The legal tax brackets and statutory rates are then applied to this calculation of taxable income, and the tax liabilities are estimated.

In column 2 of Table 4A the statutory tax rates are reported for the different levels of gross income that corresponds to the brackets of taxable income for which the statutory rates apply. To move from column

2 to column 3 we need to factor in all the allowance and exemptions that were outlined above in order to calculate the current effective marginal tax rates (column 3).

When we consider the current effective marginal income tax rates as a percentage of changes of gross income, we find in column 3 the rates move from 0 at the minimum wage level to 34 percent at a gross income of approximately 16 billion TL. When we include the employee's social security contribution, we find in column 4 that the rates range from 8 percent at the level of the minimum wage to 36 percent at 14.2 billion TL, then drops to 30 percent from 14.2 billion TL to 16.0 billion TL and then is 34 percent for higher levels of income. In column 5 we show the marginal tax rates when we also include the contributions to the employees' Provident Fund as a tax. In this case the marginal tax rate begins at the level of the minimum wage at 13 percent and rises to 41 percent at 14.2 billion TL, then it drops to 35 percent from 14.2 b TL to 16.0 b TL and then rises from 39 percent thereafter.

There may be some disagreement over this treatment of the Provident Fund contributions as a tax at the level of the employee, however, in column 6 we add up all the income taxes, social security and provident contributions paid by both the employee and the employer as a percentage of the total cost of labor borne by the employer. This total cost includes the gross wage paid to the employee plus the employee's share of the contributions made to the employee's social security and provident fund. At the minimum wage level of gross income, we find that 24 percent of the marginal cost of the total labor cost goes to the government and the employee receives 76 percent. The marginal contributions paid to the government rise rapidly to 35 percent at 4.3 b TL, 43 percent at 7.2 b TL, and 49 percent at 14.0 b TL. Above 16.0b TL the employer sends 42 percent of the total cost of labor that employer must bear to the government.

These are very high marginal tax rates on the income from labor for a country with a per capita income of US\$6,000 - US\$6,500 per year.

Table 4A: Marginal Personal Income Tax Rates of the Private Sector Employees: Current System

Gross Income '000 TL (1)	Statutory Tax Rate (2)	Current Marginal Tax Rates (IT) (3)	Individual Marginal Tax IT+ SS (8%) (4)	Individual Marginal Tax Rates Including IT+SS (8%) and PF (5%) (5)	Marginal Tax Rate on employer cost including IT+SS (8%+10%) + PF (5%+5%) (6)
2880000	0%	0.00	0.08	0.13	0.24
4261782	20%	0.12	0.20	0.25	0.35
5461494	25%	0.17	0.25	0.30	0.39
7178448	30%	0.21	0.29	0.34	0.43
9908333	35%	0.24	0.32	0.37	0.46
14000000	40%	0.28	0.36	0.41	0.49
14212800	40%	0.28	0.36	0.41	0.49
15061664	45%	0.30	0.30	0.35	0.38
16000000	45%	0.34	0.34	0.39	0.42
17000000	45%	0.34	0.34	0.39	0.42
18000000	45%	0.34	0.34	0.39	0.42
19000000	45%	0.34	0.34	0.39	0.42
20000000	45%	0.34	0.34	0.39	0.42
21000000	45%	0.34	0.34	0.39	0.42
22000000	45%	0.34	0.34	0.39	0.42
23000000	45%	0.34	0.34	0.39	0.42
24000000	45%	0.34	0.34	0.39	0.42
25000000	45%	0.34	0.34	0.39	0.42

Table 4B: Average Personal Income Tax Rates of the Private Sector Employees: Current System

Gross Income '000 TL (1)	Statutory Tax Rate (2)	Current Average Tax Rates (IT) (3)	Individual Average Tax IT+ SS (8%) (4)	Individual Average Tax Rates Including IT+SS (8%) and PF (5%) (5)	Average Tax Rate on employer cost including IT+SS (8%+10%) + PF (5%+5%) (6)
2880000	0%	0.00	0.08	0.13	0.24
4261782	20%	0.04	0.12	0.17	0.28
5461494	25%	0.07	0.15	0.20	0.30
7178448	30%	0.10	0.18	0.23	0.33
9908333	35%	0.14	0.22	0.27	0.37
14000000	40%	0.18	0.26	0.31	0.40
14212800	40%	0.18	0.26	0.31	0.40
15061664	45%	0.19	0.27	0.32	0.40
16000000	45%	0.20	0.27	0.32	0.40
17000000	45%	0.21	0.27	0.32	0.40
18000000	45%	0.21	0.28	0.33	0.40
19000000	45%	0.22	0.28	0.33	0.41
20000000	45%	0.23	0.28	0.33	0.41
21000000	45%	0.23	0.29	0.34	0.41
22000000	45%	0.24	0.29	0.34	0.41
23000000	45%	0.24	0.29	0.34	0.41
24000000	45%	0.25	0.29	0.34	0.41
25000000	45%	0.25	0.30	0.35	0.41

We have calculated average tax rates in Table 4B. Here we find that if we consider income tax and social security contributions alone (column 4), the average tax burden rises from 8 percent at the minimum wage to 15 percent at 5.5b TL, 18 percent at 7.2 b TL, 22 percent at a gross income of 9.9 b TL and 26 percent at 14.0 b TL. The average rate then continues to rise to 30 percent at 25b TL.

When we consider the average tax burden on the employers' wage bill, column 6, we see that it starts at 24 percent at the minimum wage and then rises to 40 percent for gross incomes of 14b TL and then rises to an average of 41 percent at 19b. TL and is pretty well constant from then onward.

We now turn to self-employed individuals where we again consider an individual with a spouse that is not working, plus one child. In the case of self-employed individuals, they are given a tax allowance of 13 percent for social security payments, and a standard deduction equal to 10 percent of gross income after the allowance of social security. The rate of social security tax used in these calculations is 14.5 percent. In columns 2 and 3 we have the marginal tax rates facing the individual when we consider only income tax (column 2) and both income tax and social security contributions (column 3). The income tax rates go from 0 percent at the level of income of the minimum wage, to a rate of 35.2 percent at a gross income of 14.2 b TL and then to an effective rate of 40.5 percent between 14.2 b TL and 15.0 b TL of gross income. This is same effective rate applies to incomes above this amount.

Table 5: Marginal and Average Personal Income Tax Rates of the Self-Employed: Current System

Gross Income '000 TL (1)	Current Marginal Tax Rates (IT) (2)	Individual Marginal Tax IT+ SS (14.5%) (3)	Current Average Tax Rates (IT) (4)	Individual Average Tax IT+ SS (14.5%) (5)
2,500,000	0.000	0.145	0.000	0.145
3,788,250	0.130	0.275	0.044	0.189
4,854,662	0.196	0.341	0.077	0.222
6,380,843	0.235	0.380	0.115	0.260
8,807,407	0.274	0.419	0.159	0.304
13,500,894	0.313	0.458	0.213	0.358
14,212,800	0.352	0.497	0.220	0.365
15,000,000	0.405	0.405	0.229	0.367
16,000,000	0.405	0.405	0.240	0.369
17,000,000	0.405	0.405	0.250	0.371
18,000,000	0.405	0.405	0.259	0.373
19,000,000	0.405	0.405	0.266	0.375
20,000,000	0.405	0.405	0.273	0.376
21,000,000	0.405	0.405	0.279	0.378
22,000,000	0.405	0.405	0.285	0.379
23,000,000	0.405	0.405	0.290	0.380
24,000,000	0.405	0.405	0.295	0.381
25,000,000	0.405	0.405	0.300	0.382

When the social security payments of 14.5 percent are levied on top of the income tax then the marginal tax rates start at 14.5 percent at the level of the minimum wage and then rise to 49.7 percent at a gross income level of 14.2 b TL. At levels of income above the “theoretical” effective marginal tax rates are again 40.5 percent.

In columns 4 and 5 of Table 5 we present the average tax rates for self-employed individuals. For the income tax alone the average tax rates rise from 0 at the minimum wage to 22.0 percent at a gross income of 14.2 b TL and then they rise to an average of 30 percent at an income of 25 b TL. When the social security contributions are added into the tax payments the average tax rate grows from 14.5 percent at the minimum wage to 36.5 percent at a gross income of 14.2 b TL and then increases up to 38.2 percent at incomes of 25.0 b TL.

However, the timing of when the self-employed must pay their taxes is very different from when the employees must pay their personal income tax. For employees the taxes are withheld each month during the year in which they are earning the income. For the self employed the taxes are

assessed by the month of June in the year following the one in which the income has been earned. As a consequence, the income taxes are not being paid until one year after the income has been earned. In a highly inflationary situation this reduces the real effective average tax rate by a huge amount. Furthermore, because the rate of inflation from June of the year that the income is being earned to the same month the following year is highly uncertain, the taxpayer needs to plan as if little or no inflation is going to occur. Hence, the situation exists where the taxpayer is facing high marginal statutory rates, but after the income is earned the tax liabilities are eroded by inflation.

There might be good reasons for providing some relief from inflation for corporations, however, for the self-employed, there is no good reason that I have ever encountered. The system needs to be fixed. The statutory tax rates need to be reduced so that the taxpayer knows with full certainty that the marginal and average tax rates are “theoretically” lowered. At the same time an adjustment needs to be made to fully account for the actual experience of inflation from the middle of the year when the income is earned to the date when the tax is actually paid, whenever is that date.

In Table 6 a similar set of calculations are done for a male married public sector employee, in the same family circumstances. The calculations shown in Table 6 are only done for the individual, excluding and including social security contributions. In the case of male public servants they receive a 9 percent allowance for social security, while a female receives a 5% allowance. The rates of social security contributions are also 9 percent and 5 percent, respectively. They receive a standard deduction of 20% of the gross income less the SS allowance as well as the normal allowance for spouse and children. In this case the individuals face a marginal income tax rate of 29 percent at a gross income of 14.2 b TL and a 36 percent marginal tax rate at a gross incomes of 16.0 b TL. When this is combined with the 9 percent social security contribution, the marginal tax rate peaks at 38 percent at a gross income of 14.2b TL. The marginal tax rate then falls to 36 percent for higher ranges of income.

The average tax burden of the combined personal income tax and social security contributions facing the individual taxpayer is reported in Table 6 column 4. In this case the average tax burden is 9 percent at the minimum wage and increases to 29 percent by the time it reaches the social security contribution limit of 14.2 b TL of gross income. The average tax burden then rises to 32 percent when gross incomes have increased to 25 b TL per year.

Table 6: Marginal and Average Personal Income Tax Rates of the Public Sector: Current System

Gross Income '000 TL (1)	Current Marginal Tax Rates (IT) (2)	Individual Marginal Tax IT+ SS (9%) (3)	Current Average Tax Rates (IT) (4)	Individual Average Tax IT+ SS (9%) (5)
2,880,000	0.00	0.09	0.00	0.09
3,259,560	0.13	0.22	0.01	0.10
4,177,143	0.15	0.24	0.04	0.13
5,490,330	0.19	0.28	0.08	0.17
7,578,242	0.23	0.32	0.12	0.21
11,616,703	0.27	0.36	0.17	0.26
14,212,800	0.29	0.38	0.20	0.29
15,000,000	0.35	0.35	0.20	0.29
16,000,000	0.36	0.36	0.21	0.29
17,000,000	0.36	0.36	0.22	0.30
18,000,000	0.36	0.36	0.23	0.30
19,000,000	0.36	0.36	0.24	0.30
20,000,000	0.36	0.36	0.24	0.31
21,000,000	0.36	0.36	0.25	0.31
22,000,000	0.36	0.36	0.25	0.31
23,000,000	0.36	0.36	0.26	0.31
24,000,000	0.36	0.36	0.26	0.32
25,000,000	0.36	0.36	0.27	0.32

For purposes of considering the incentives facing the private sector taxpayers to evade taxes, it is the marginal tax rates of the private sector employees and the self employed as reported in Tables 4A and Table 5 that are most relevant. Of course these calculations are only “theoretical” marginal tax rates as very few employees or employers can afford to report the true income they pay to their employees.

Marginal Tax Rates and Taxpayer Compliance

Excluding the public sector, state enterprises, public companies and the staff of EMU, it is practically impossible for the tax administration to effectively administer an income tax system with such an escalating rate structure and high overall “theoretical” tax burdens. Private sector employers and their employees simply enter into an understanding to report a minimum salary for social security and tax purposes, and then the employees get paid the rest of their compensation in cash without recording the payments. This practice happens all over the world when the combined personal income tax and social security rates are too high.

Unfortunately in order to avoid overpaying their corporate income tax, as a result of the understatement of employees’ compensation, they must not report a significant portion of their sales. As a consequence a large part of the base of the VAT on domestic transactions is also eroded. No personal income tax and social security system can function effectively in any country with as high a set of statutory tax rates as those found in the TRNC.

The personal income tax structure appears to have been designed under the assumption that the TRNC would experience little or no inflation. However, in this highly inflationary situation the tax system becomes very unfair. At the present time the inflation adjustment of the brackets and rates are done once a year in order to correct next years tax brackets and rates for last year’s inflation. Furthermore, no adjustment is made for the effects of inflation if the taxes are paid late. Hence, the effective marginal and average tax rates on real income faced by the taxpayer will be very different if the rate of inflation is high or low. These guesses about what next year’s inflation is going to be in the TRNC are usually wrong, because the solemn pronouncements made each year by the Turkish authorities and the IMF that the rate of inflation will be low next year, have been also consistently wrong. The personal income tax system needs to be revamped so that different rates of inflation do not end up drastically affecting the real amounts of tax that taxpayers are required to

pay. By **real** I mean values adjusted by the amount of inflation that has occurred from the time when the income is earned to the date that the tax liabilities are paid.

There is a need for North Cyprus to follow the lead of tax reforms in countries all over the world and reduce the “theoretical” progressivity of the personal income tax structure. The income tax system has never been an effective instrument to redistribute income in any country at any time since its invention at the turn of the 20th century. It is a populist myth that a highly progressive statutory tax structure will lead to the rich paying more. The truth is that such a rate structure only causes the rich to evade and avoid income taxes more. The TRNC needs to simplify and reduce the number of brackets and rates so that it can function properly in an inflationary environment. The system of allowances should also be simplified, and many eliminated, as they no longer serve their purpose.

In brief, the government needs to help the tax administration build up the level of taxpayer compliance. At the present time, to break the income tax law is acceptable in the community, because the tax system is viewed as being unfair.

III. Revenue Effectiveness of the Personal Income Tax System

From the revenue statistics for 2000, personal income tax represented 32.0 percent of total tax revenue while the corporation income tax contributed another 11.9 percent. The taxes withheld from the employees of the Eastern Mediterranean University, are not included in the personal income tax collections of the TRNC. But they should be counted as income tax revenue. Even if they are not actually turned over to the tax department they are public sector revenues, because these payments are used to directly offset the legal liabilities that the government has to EMU.

We need to consider how much of the tax revenue collected represents funds available to finance public sector expenditure, and how much is simply an accounting flow in an out of the public sector accounts. For example, if the civil servants had their personal income tax rates lowered and at the same time the adjustment of the salaries for inflation was altered so that the real net of tax incomes of the civil servants were maintained, then the government's deficit would not be affected by the lowering of their personal income tax rates.

From Table 7 we see the breakdown in personal income tax collections between the income tax withheld from civil servants, private payee and the self-employed. From row 5 when we exclude taxes paid by the civil servants, we find that personal income tax collections are only about 3.08 percent of GNP. This is in contrast to the 6.7 percent of GNP when the payments by the civil servants are included.

Table 7: Personal Income Tax Revenue Collections in the TRNC, 2000

Taxpayer Group	Amount (000,000 TL)	% Of personal income tax revenue	Percent of GNP
Income from Civil Servants	22,455,135	54	3.62
Private employees*	13,703,807	33	2.21
Self-employed*	5,617,248	13	0.87
Total	41,776,190	100%	6.70

*Note: Income taxes on private employees and the self-employed account for only of 14.7 percent of total tax revenue.

What is surprising from Table 7 is the almost trivial amount of income taxes now paid by the self-employed. In total they amount to less than one percent of GNP! This is in a country where there is a relatively large professional groups of doctors, lawyers, accountants, architects, plus electricians, plumbers, bus operators, taxi drivers etc., plus because the country is small everybody including the members of the tax department knows everyone. Of course the lack of adjustment of the tax liabilities for inflation between the time the income is earned and when the taxes

are paid, plays a significant role, among other reasons, to bring about this result.

Proposals for Personal Income Tax Reform

At the present time the personal income tax system in the TRNC is inappropriate and ineffective. A reform needs to be undertaken in its design so that it will seem to the taxpayers to be a fair system. Only in this way will it be possible for its administration to be strengthened over time.

The following proposals for the reform of the personal income tax system are designed to allow the personal income tax over time to become a reliable part of the overall tax system. The short run revenue implications are either overall neutral or positive for the budget. To bring about these results the overall set of reforms should be considered as a package.

The components of the reform proposals are as follows:

- 1. A current personal allowance of 80 percent of the minimum wage, and the current level of allowances for the spouse and the first two children would be retained. A deduction of 13 percent would be allowed for social security and provident fund contributions. The current super allowance of 5 percent of income for families of more than two children would be abolished. The same allowance per child would be given for all the children in the family. The current allowances of 20 percent of income if the person is an employee, or 10 percent if one is self employed would be abolished. The tax deduction given for life insurance premiums should be abolished, as the benefits of such life insurance policies are not taxed. A subsidy for this one kind of financial instrument**

over all other financial instruments is not appropriate in a modern economy.

2. Our first, and preferred option, would apply only a single rate of tax of 20 percent on all wage income, or self-employed earnings above the deductions outlined in the above paragraph. A second option is to set the statutory tax rate at 18 percent up to the point where the social security contributions reach a maximum (14.2 b TL or gross income or 10.2 b TL of taxable income) and then set a higher rate of 22 percent on all taxable income above that level.
3. For the civil servants, and EMU employees who will have a smaller amount of taxes being withheld, then the adjustment of their gross salaries for the rate of inflation should be reduced to reflect the reduction in tax burden. In this way it is recognized that the real net income of the employees has been increased by the reduction in personal income taxes.
4. An inflation adjustment should be applied to the tax liabilities of the self-employed to the extent that the taxes have not been pre paid within the taxation year. This adjustment should be for change in the price index between the months of June of the year in which the income is earned to the date that the taxpayer pays his or her tax liabilities to the government.

Discussion

The personal income tax proposals suggested above would minimize the incorrect impacts of inflation on the taxpayers. This would stabilize the real tax revenues of the government and provide greater certainty for the taxpayers. Under the first option in the future, the only thing that would

have to be adjusted for inflation is the minimum wage. Under the second option the only adjustments that would need to be made are for the minimum wage, and for the maximum level of income on which social security contributions are made. These adjustments, along with the inflation adjustment for the tax liabilities of the self employed who have not prepaid sufficient tax before Dec 31 each year, would completely isolate the personal income tax system from the uncertainty and capricious effects of inflation on the real burden of income taxation.

A major attraction of the first option (which has a single statutory income tax rate of 20 percent) is its simplicity. It sends the message that the tax system is friendly to the employee, the entrepreneur, and the government. Taxation is no longer a game to be played between the tax administration and the TRNC residents, but a way for the TRNC government to pay its bills. At the same time the private entrepreneurs have an incentive to invest and make profits without facing unrealistic rates of income taxation.

At the present time the personal income tax system in the TRNC is broken and cannot be administered according the laws that have been enacted. The incentives need to be reduced that now encourage people to evade taxes. These two proposals are aimed to help to remove some of these incentives.

Both of the above options would leave the average tax rates of people who are earning less than 14 b TL of gross income (not taxable income) (2001 projected prices) almost unchanged. They would lower the marginal and average tax “theoretical” tax rates of those earning more than 14 b TL. At a marginal effective tax rate of 19 percent and 21 percent at 16 b TL (about US \$ 10,000) these rates are still on the high side as compared to the sample of countries shown in Table 2. But they would be a vast improvement over the present situation.

The lowering of the marginal tax rates at the higher level of incomes is certainly justified because at the present time, except for the civil service,

practically none of the private employees are reporting incomes over 14 b TL. Hence, there is a great need to lower the statutory tax rates above 14 b TL in order to reduce the incentive they face to evade the PAYE taxes on private employees, and on the income taxes of the self-employed.

The second option, would levy an 18 percent tax rate up to a level of taxable income where the social security contributions are capped (14.2 b TL in 2001) and then levy a tax rate of 22 percent on all incomes above that rate.

While this second proposal may appear more equitable, it is somewhat inferior in terms of revenue performance, and in terms of simplicity. Because at the present level of income reporting, there is almost no income reported at the 22 percent bracket level, very few taxes are collected from employees, except from the civil service and EMU employees. At the same time quite a lot of revenue is lost when the statutory tax rate on gross incomes below 14.2 b TL is lowered from 20 to 18 percent. The higher marginal tax rate of 22 percent would only make it harder for the tax administration to increase the level of compliance of the taxpayers in the TRNC.

In Table 8 the “theoretical” marginal and average income tax rates of an individual employee in the private sector are compared for different levels of gross income. In appendix A the detailed marginal tax income tax rates for these two options are presented as well as those including the social security and the provident fund contributions.

Table 8: Marginal and Average Personal Income Tax Rates

Gross Income '000 TL (1)	Current System Marginal Tax Rate (2)	Proposed Marginal Tax Rates (20% flat) (3)	Proposed Marginal Tax Rates (2 rates: 18% and 22%) (4)	Current System Average Tax Rates (5)	Proposed Average Tax Rates (20% flat) (6)	Proposed Average Tax Rates (2 rates: 18% and 22%) (7)
2880000	0.00	0.03	0.02	0.00	0.03	0.02
4261782	0.12	0.17	0.16	0.04	0.07	0.07
5461494	0.17	0.17	0.16	0.07	0.10	0.09
7178448	0.21	0.17	0.16	0.10	0.11	0.10
9908333	0.24	0.17	0.16	0.14	0.13	0.12
14000000	0.28	0.17	0.16	0.18	0.14	0.13
14212800	0.28	0.17	0.16	0.18	0.14	0.13
15061664	0.30	0.19	0.21	0.19	0.15	0.13
16000000	0.34	0.19	0.21	0.20	0.15	0.14
17000000	0.34	0.19	0.21	0.21	0.15	0.14
18000000	0.34	0.19	0.21	0.21	0.15	0.15
19000000	0.34	0.19	0.21	0.22	0.16	0.15
20000000	0.34	0.19	0.21	0.23	0.16	0.15
21000000	0.34	0.19	0.21	0.23	0.16	0.16
22000000	0.34	0.19	0.21	0.24	0.16	0.16
23000000	0.34	0.19	0.21	0.24	0.16	0.16
24000000	0.34	0.19	0.21	0.25	0.16	0.16
25000000	0.34	0.19	0.21	0.25	0.16	0.16

Revenue Impacts: Private Sector

In Table 9 the revenue impacts are shown in detail for the private sector employees and the self-employed.

The lower tax rates in Option 1 would on their own reduce the tax collections from the self employed by about 19 percent, but the adjustment of the tax liabilities for inflation would increase the net taxes being paid by the self employed by a net amount of 20.4 percent. If instead of waiting to be assessed in the year after they earn their income, the self employed were to prepay an estimated tax of the amount they will owe before December 31 of the year in which they earned their income, then the overall real tax revenues from this source would be increased by about 0.35 percent. In other words, if the self-employed were to pay all

their taxes on estimated bases, as is the case in most countries, they would be left in the same position as they are today. However, with the very much lower marginal tax rates we should expect that their level of compliance and the total taxes paid by this group to increase.

It is simply not creditable for the self-employed to argue that they do not know the income they have earned in a year until the middle of the next year. Prepayment of income taxes is the norm around the world, and the self employed individuals in North Cyprus are better educated and more aware of their economic circumstances than almost anywhere else in the world. This system of inducing the self-employed to begin estimating their tax liabilities is a very effective way to move the income tax system for this group of people toward the type of self-assessment system that is used in countries around the world. They will have a significant incentive to estimate their taxes and pay them early.

Table 9A: Revenue Impacts of Personal Income Tax Reforms for Private Sector

Group of Taxpayer	Current base level revenue of sample	Proposed 20% tax rate over minimum wage	Percentage change in revenues
Private sector employees	132,573,967	130,278,292	-1.73%
Self-employed-A	72,379,320	87,155,862	20.42%
Self-employed-B	72,379,320	72,629,885	0.35%
Total personal income tax revenue impact (Option 1)			0.585%

Table 9B: Revenue Impacts of Personal Income Tax Reforms for Private Sector

Group of taxpayer	Current base level revenue of sample	18% tax rate over minimize to max gross income level of SS and 22% tax rate above SS limit	Percentage change in revenues
Private sector employees	132,573,967	121,628,147	-8.26%
Self-employed-A	72,379,320	79,430,560	9.74%
Self-employed-B	72,379,320	66,192,134	-8.55%
Total personal income tax revenue impact (Option 2)			-2.65%

Under Option 1 the private sector employees will reduce their tax payments by 1.73 percent, while the self-employed will increase their tax payments from 0.35 percent to 20.42 percent. For purposes of estimating the total revenue impact we assume that 50 percent of the self-employed pay all their tax prior to Dec 31 each year and 50 percent wait until June of the following year. Under these assumptions the overall revenue impact of the proposed reform outlined in option 1 for the personal income tax is a positive 2.35 percent.

Under Option 2 the private sector employees will reduce their total tax payments by 8.26 percent. The self-employed will experience a 9.74 percent increase in tax revenues if none of them pay until June of year following their tax year. However, they would be able to reduce their taxes by 8.55 percent if they all paid their taxes before December 31 of the current tax year. The estimated total revenue impact of this proposal is to reduce the total personal income tax revenues by 4.65 percent.

Both of these tax revenue forecasts are assuming no response in compliance. Given the circumstances, it would appear reasonable to assume a 5 percent growth rate in compliance for the first 4 or 5 years following such a tax reform. To facilitate such a reform, the level of computer technology in the information system of the income tax office should be upgraded immediately.

Revenue Impacts: Public Sector

From Table 10 we find that under Option 1 the revenue collected from the public sector would be reduced by 19.56 percent and under Option 2 the revenues would be reduced by 25.60 percent as compared to the revenues paid by this group if there were no reform. However, if as the statutory rates of taxation are lowered there is an offsetting reduction in the wage adjustment for the rate of inflation to keep real net of tax wages constant, this reduction in tax rates on the incomes of the civil service staff, there would be no budgetary impact from these reforms

Table 10A: Revenue Impacts of Personal Income Tax Reforms for Public Sector

Group of Taxpayer	Current base level revenue of sample	Proposed 20% tax rate over minimum wage	Percentage change in revenues
Public Sector	24,307,263,586	19,553,548,043	-19.56%

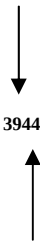
Table 10B: Revenue Impacts of Personal Income Tax Reforms for Public Sector

Group of taxpayer	Current base level revenue of sample	18% Tax rate over to max gross income level of SS and 22% tax rate above SS limit	Percentage change in revenues
Public Sector	24,307,263,586	18,084,688,677	-25.60%

Given the large adjustments experienced each year in nominal terms to compensate for the erosion of real wages due to inflation, this should not create serious technical problems. This same procedure should be applied to the salaries of EMU staff. It is particularly easy in the case of EMU staff because their salaries are in general quoted net of all taxes.

In Table 11 the difference in the average tax rates for the current system and the proposed systems under the two options are calculated. This difference represents the percentage of gross income that would need to be adjusted in the first year after either of these proposals was enacted. This is shown in the Table by gross income categories, but could be calculated exactly for the gross salary of each person.

Table 11: Adjustment of Civil Service Salaries for Changes in Average Tax Rates

Gross Income '000 TL	Current Average Tax Rates	Proposed Average Tax Rates (20%)	Proposed Average Tax Rates (18%, 22%)	Adjustment of Gross Public Sector Salaries for Option 1	Adjustment of Gross Public Sector Salaries for Option 2	Estimated Number of Public Sector Employees
2,880,000	0.0%	3.4%	3.1%	3.4%	3.1%	0
3,259,560	1.5%	5.1%	4.6%	3.6%	3.1%	2
4,177,143	4.4%	8.0%	7.2%	3.6%	2.8%	3
5,490,330	7.9%	10.4%	9.4%	2.5%	1.5%	57
7,578,242	12.1%	12.6%	11.3%	0.5%	-0.8%	1945
11,616,703	17.4%	14.5%	13.1%	-2.9%	-4.3%	5147
14,212,800	19.6%	15.2%	13.8%	-4.4%	-5.7%	
15,000,000	20.3%	15.5%	14.3%	-4.9%	-6.1%	
16,000,000	21.3%	15.7%	14.8%	-5.6%	-6.6%	
17,000,000	22.2%	16.0%	15.2%	-6.2%	-7.0%	
18,000,000	23.0%	16.2%	15.6%	-6.7%	-7.4%	
19,000,000	23.6%	16.4%	15.9%	-7.2%	-7.7%	
20,000,000	24.3%	16.6%	16.2%	-7.7%	-8.1%	
21,000,000	24.8%	16.8%	16.5%	-8.1%	-8.3%	
22,000,000	25.3%	16.9%	16.7%	-8.4%	-8.6%	
23,000,000	25.8%	17.0%	17.0%	-8.8%	-8.8%	
24,000,000	26.2%	17.2%	17.2%	-9.1%	-9.0%	
25,000,000	26.6%	17.3%	17.4%	-9.3%	-9.2%	

Conclusions

The major advantage of lowering personal income tax rates is that it would enable the tax administration to bring into the tax net a large part of the private sector economy that is now classified as the underground economy. Recent estimates report that the size of the underground economy (for reasons of taxation) represents over 40 percent of the economy (Mustafa Besim, 2001) In fact, this economy is in no way hidden nor underground, it mostly reflects formal businesses attempting to survive in a competitive economy.

Unless such a tax reform is carried out the TRNC will never have a serious system of personal income taxation. At the present time the personal income taxation is more of a game of hide-and-seek between the tax authorities and the private sector, constrained by political realities. Neither side takes it too seriously (nobody goes to jail for tax evasion) because they both know that in an inflationary environment the present system is seriously flawed. Now is an opportune time when there is a budgetary crisis to make the system right, and enforce it.

A cautionary Note

The revenue estimates prepared here are based on the information given to us by the tax department from a random sample of taxpayer files. Because of the limited resources of the tax department, the size of the sample is not as large as we would have liked it to be. If there is a desire to improve the accuracy of these forecasts, it is possible to do so by expanding the size of the sample of taxpayer information that our revenue estimation model is based on.

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The views expressed here are those of the author alone, and not those of my colleagues.

Appendix A

Marginal Personal Income Tax Rates: Proposed (Option 1)

Gross Income '000 TL	Statutory Tax Rate	Proposed Marginal Tax Rates (IT)	Proposed Individual Marginal Tax IT+ SS (8%)	Proposed Individual Marginal Tax Rates Including IT+SS (8%) and PF (5%)	Proposed Marginal Tax Rate on employer cost including IT+SS (8%+10%)+PF (5%+5%)
2880000	20%	0.03	0.11	0.16	0.27
4261782	20%	0.17	0.25	0.30	0.39
5461494	20%	0.17	0.25	0.30	0.39
7178448	20%	0.17	0.25	0.30	0.39
9908333	20%	0.17	0.25	0.30	0.39
14000000	20%	0.17	0.25	0.30	0.39
14212800	20%	0.17	0.25	0.30	0.39
15061664	20%	0.19	0.19	0.24	0.28
16000000	20%	0.19	0.19	0.24	0.28
17000000	20%	0.19	0.19	0.24	0.28
18000000	20%	0.19	0.19	0.24	0.28
19000000	20%	0.19	0.19	0.24	0.28
20000000	20%	0.19	0.19	0.24	0.28
21000000	20%	0.19	0.19	0.24	0.28
22000000	20%	0.19	0.19	0.24	0.28
23000000	20%	0.19	0.19	0.24	0.28
24000000	20%	0.19	0.19	0.24	0.28
25000000	20%	0.19	0.19	0.24	0.28

Average Personal Income Tax Rates: Proposed (Option 1)

Gross Income '000 TL	Statutory Tax Rate	Proposed Average Tax Rates (IT)	Proposed Individual Average Tax IT+ SS (8%)	Proposed Individual Average Tax Rates Including IT+SS (8%) and PF (5%)	Proposed Average Tax Rate on employer cost including IT+SS (8%+10%) + PF (5%+5%)
2880000	20%	0.03	0.11	0.16	0.27
4261782	20%	0.07	0.15	0.20	0.31
5461494	20%	0.10	0.18	0.23	0.33
7178448	20%	0.11	0.19	0.24	0.34
9908333	20%	0.13	0.21	0.26	0.36
14000000	20%	0.14	0.22	0.27	0.37
14212800	20%	0.14	0.22	0.27	0.37
15061664	20%	0.15	0.22	0.27	0.36
16000000	20%	0.15	0.22	0.27	0.36
17000000	20%	0.15	0.22	0.27	0.35
18000000	20%	0.15	0.22	0.27	0.35
19000000	20%	0.16	0.22	0.27	0.35
20000000	20%	0.16	0.21	0.26	0.34
21000000	20%	0.16	0.21	0.26	0.34
22000000	20%	0.16	0.21	0.26	0.34
23000000	20%	0.16	0.21	0.26	0.34
24000000	20%	0.16	0.21	0.26	0.33
25000000	20%	0.16	0.21	0.26	0.33

Appendix A (cont.)

Marginal Personal Income Tax Rates: Proposed (Option 2)

Gross Income '000 TL	Statutory Tax Rate	Proposed Marginal Tax Rates (IT)	Proposed Individual Marginal Tax IT+ SS (8%)	Proposed Individual Marginal Tax Rates Including IT+SS (8%) and PF (5%)	Proposed Marginal Tax Rate on employer cost including IT+SS (8%+10%)+PF (5%+5%)
2880000	18%	0.02	0.10	0.15	0.26
4261782	18%	0.16	0.24	0.29	0.38
5461494	18%	0.16	0.24	0.29	0.38
7178448	18%	0.16	0.24	0.29	0.38
9908333	18%	0.16	0.24	0.29	0.38
14000000	18%	0.16	0.24	0.29	0.38
14212800	18%	0.16	0.24	0.29	0.38
15061664	22%	0.21	0.21	0.26	0.29
16000000	22%	0.21	0.21	0.26	0.29
17000000	22%	0.21	0.21	0.26	0.29
18000000	22%	0.21	0.21	0.26	0.29
19000000	22%	0.21	0.21	0.26	0.29
20000000	22%	0.21	0.21	0.26	0.29
21000000	22%	0.21	0.21	0.26	0.29
22000000	22%	0.21	0.21	0.26	0.29
23000000	22%	0.21	0.21	0.26	0.29
24000000	22%	0.21	0.21	0.26	0.29
25000000	22%	0.21	0.21	0.26	0.29

Average Personal Income Tax Rates: Proposed (Option 2)

Gross Income '000 TL	Statutory Tax Rate	Proposed Average Tax Rates (IT)	Proposed Individual Average Tax IT+ SS (8%)	Proposed Individual Average Tax Rates Including IT+SS (8%) and PF (5%)	Proposed Average Tax Rate on employer cost including IT+SS (8%+10%) + PF (5%+5%)
2880000	18%	0.02	0.10	0.15	0.26
4261782	18%	0.07	0.15	0.20	0.30
5461494	18%	0.09	0.17	0.22	0.32
7178448	18%	0.10	0.18	0.23	0.33
9908333	18%	0.12	0.20	0.25	0.35
14000000	18%	0.13	0.21	0.26	0.36
14212800	18%	0.13	0.21	0.26	0.36
15061664	22%	0.13	0.21	0.26	0.35
16000000	22%	0.14	0.21	0.26	0.35
17000000	22%	0.14	0.21	0.26	0.35
18000000	22%	0.15	0.21	0.26	0.34
19000000	22%	0.15	0.21	0.26	0.34
20000000	22%	0.15	0.21	0.26	0.34
21000000	22%	0.16	0.21	0.26	0.34
22000000	22%	0.16	0.21	0.26	0.34
23000000	22%	0.16	0.21	0.26	0.33
24000000	22%	0.16	0.21	0.26	0.33
25000000	22%	0.16	0.21	0.26	0.33