

Shall High Income Earners Pay More Taxes in The Kyrgyz Republic?

Kırgızistan Cumhuriyetinde Yüksek Gelirli Dahi Fazla Vergi mi Ödeyecekler?

Saida ISMAILAKHUNOVA¹

ABSTRACT

In 2009 a flat tax reform was implemented in the Kyrgyz Republic following similar reforms in neighbor countries and efficiency reasons. This paper discusses problems in the Kyrgyz personal income taxation arising after the reform, when progressive income tax rates were changed to a flat rate. Taking into account a high income inequality in the country and a budget deficit problem, a flat tax schedule seems to be not optimal for the country. This paper investigates possible framework of the personal income taxation and tax rates for the Kyrgyz Republic, which will maximize tax revenues and reduce income inequality. The top optimal tax rates for high income earners in the Kyrgyz Republic are calculated following methodology by Saez (2001) and Brewer, Saez, and Shephard (2008). The results suggest that a personal income tax rate is quite low in the republic and can be increased for high income earners without large negative incentive effects on work effort. Progressive tax schedule should be considered in the republic by tax policymakers in the middle term perspective.

Keywords: Optimal taxation, income tax rate, budget policy, flat income taxation

ÖZET

2009 yılında Kırgızistan'da komşu ülkelerdeki benzer reformlar ve vergilemede etkinliğin sağlanması amacıyla tek oranlı vergi reformu uygulanmıştır. Bu makalede Kırgızistan'da kişisel gelirin vergilendirilmesinde artan vergi oranlarından tek oranlı vergilendirmeye geçişi sağlayan reform ile ortaya çıkan problemler ele alınmaktadır. Ülkedeki yüksek derecedeki gelir eşitsizliği ve bütçe açıkları dikkate alındığında tek oranlı verginin optimal olmadığı anlaşılmaktadır. Bu makalede Kırgızistan için vergi gelirlerini arttıran ve gelir dağılımındaki eşitsizliği azaltan olası kişisel gelir vergisi düzenlemeleri ve vergi oranları incelenmektedir. Yüksek gelir elde edenlere uygulanacak en yüksek optimal vergi oranı Saez (2001) ve Brewer, Saez, ve Shephard (2008) tarafından geliştirilen yöntem ile hesaplanmıştır. Sonuçlar ülkedeki mevcut kişisel gelir vergisinin yüksek kazanç elde edenler için oldukça düşük olduğunu ve bu nedenle çalışma temposunda herhangi bir azalmaya neden olmadan artırılabilirliğini göstermektedir. Bu amaçla artan oranlı vergi tarifesi veri politikası uygulayıcıları tarafından orta vadeli perspektifte dikkate alınmalıdır.

Anahtar kelimeler: Optimal vergileme, gelir vergisi oranı, bütçe politikası, tek oranlı vergileme.

1. INTRODUCTION

The optimal design of a tax system is a topic that has long fascinated economic theorists and flummoxed economic policymakers in many countries around the world. Over the past few decades the concept of reducing tax rates introduced by Hall and Rabushka (2005) has become very attractive and popular among policymakers in different countries, including the Kyrgyz Republic. This concept allows more simplified tax legislation and treating all taxpayers uniformly.

The Kyrgyz Republic implemented flat personal taxation in 2009. The current design of the tax system does not seem to bring increased tax revenues, improvement of labor incentives and tax compliance. One of the specific features of the flat tax design in the Kyrgyz Republic is a "minimal alternative income" which is the minimal tax base. The concept of minimal alternative income in the personal income tax system has brought egregious misunderstanding, confusion in its concept and calculation, and may lead to "wrong" economic incentives.

Moreover, flatter and lower tax rates have reduced the potential tax revenue to the state budget, which is an essential issue in the conditions of continuous budget deficit. Nowadays the republic is facing significant difficulties with the budget deficit, which increased from 1.4% to GDP in 2008 to 6.1% in 2012. At the same time the flat personal income tax system has been worsening income inequality and social differentiation in the country.

Those challenges of increasing income inequality and budget deficit bring under agenda of tax policymakers in the Kyrgyz Republic an issue to adapt the tax system in the way that will allow them to maximize tax revenues and reduce income inequality. Therefore, an empirical investigation of an appropriate tax regime for the republic has become topical. An increase of personal income tax rates should be carefully studied due to possible incentive effects. One of the ways to determine an appropriate tax rate is to find an optimal income tax rate for high income earners, which can be done by following an optimal income taxation theory.

¹ Phd., Kyrgyz Republic, The Kyrgyz-Russian Slavic University, smus_econom@mail.ru

This paper discusses possible framework of the personal income taxation in the Kyrgyz Republic and gives estimations of an optimal income tax rate for high income earners for the first time ever. Estimation results for the optimal income tax rate show that the current tax rate for high income earners can be increased and progressive personal income taxation might be introduced without strong disincentive effects. In the context of the Kyrgyz Republic to our best knowledge this paper is the first which has investigated an optimal personal income tax rate for high income earners in the Kyrgyz Republic and in the countries with a flat personal income tax rate system.

The paper has been organized as follows. Theoretical aspects of flat personal income taxation as well as flat tax designs in practice among countries and worldwide trends in personal income taxation are given in Section (2). Section (3) outlines development of the personal income taxation in the Kyrgyz Republic and problems which have been arisen after the flat tax reform in 2009. In the next section (4) top optimal tax rates for high income earners in the Kyrgyz Republic are elicited and, to preview our conclusions, the estimations suggest that the current personal income tax rate of the Kyrgyz Republic can be raised for high income earners and tax policymakers may consider an implementation of progressive tax rate. Finally, Section (5) summarizes the key results and draws some policy recommendations and conclusions.

2. THEORETICAL ASPECTS OF A FLAT PERSONAL INCOME TAXATION AND TRENDS OF PERSONAL INCOME TAXATION WORLDWIDE

The essential part of a tax system is personal income taxation, which plays a significant role in fulfilling the government need for financing expenditure and redistribution of income and wealth. Personal income taxation has incentive effects as well, which can impact the taxpayer's behavior on participating in the labor market, formation of human capital, choices between labor and leisure, investment decisions, tax compliance and evasion of legal rules.

Personal income tax systems significantly vary across countries in terms of elements of the system and one of the key elements of the system which differs is the tax rate. A majority of countries around the world use a progressive income tax rate; however, tax systems with a single tax rate have become popular. Although the classical flat tax – as proposed by Hall and Rabushka (2005) – has not been implemented in any country, a number of countries

have chosen recently to tax income at flat rates. Up until 1994, the only jurisdictions with flat tax systems were Hong Kong, Jersey and Guernsey, and Jamaica; however, as of 2011 a flat personal income tax rate schedule was implemented by 24 administrations, 20 of which are formerly centrally-planned economies of Central and Eastern Europe and Eurasia.

Governments of former Soviet Union countries undertook their tax reforms to achieve a fair tax system based on horizontal equity. Some economists point out that increased international mobility puts significant pressure on the countries because of increased tax-competition to reduce tax rates (OECD, *Reforming Personal Income Tax*, 2006). In context of the former Soviet Union countries tax-competition can be one of the main reasons of implementation of flat taxation. For example, flat tax reforms in neighbor countries - Estonia, Lithuania - introduced in 1994 and in Latvia in 1997, while reforms in Ukraine, Georgia, Kazakhstan and Kyrgyzstan was followed by the successful flat tax reform in the Russian Federation.

Countries often apply different tax rates to labor income, dividends, capital gains and other sources of income. Moreover, the tax rates in countries with a flat tax are lower in comparison with other countries. In some CIS countries the flat tax rates are among the lowest in the world (for example, in Ukraine, Kazakhstan, and Kyrgyzstan). Although the number of countries with flat personal income taxation has been increasing, empirical studies on the impact of the flat tax reform on redistribution effects as well as detailed analysis of the positive or negative influence on the real economy have been limited. To our best knowledge only three actual sets of reforms have been scrutinized closely in the literature – tax reforms in the Russian Federation in 2001 ((Keen, Kim, & Varsano, 2006), (Ivanova, Keen, & Klemm, 2005), (Gorodnichenko, Martinez-Vazquez, Peter, & Klara, 2008), (Gaddy & Gale, 2006)), (Ю.Петров, 2006), (В.Пансков, 2007), (Ю.петров, 2012) in the Slovak Republic in 2004 ((Miklos̄, Jakoby, & Morvay, 2005) and (Chren, 2005)) and in Romania in 2005 (Voinea & Mihaescu, 2009).

From the first glance flat income tax countries have some advantages due to lower and flat income tax rate 1) significant improvement of simplicity and fairness in terms of horizontal equity (in comparison with a graduated income tax), 2) enhancement of tax compliance, and 3) an increase of the net reward to working individuals from the gross value of a productive activity due to the lower marginal tax rate, which will stimulate labor supply and economic growth and may lead even to increases in budget

revenue. However, a further increase of the tax rate leads to a loss of revenue because high taxes will discourage economic growth and compliance, which can be explained by Laffer Curve. In the case when the maximum-revenue point is exceeded by the given tax rate, lowering the tax rate would increase revenues along with the elimination of special tax preferences. Therefore, the concept of lowering tax rates, simplifying the tax legislation, and treating all taxpayers uniformly is inherently very attractive for tax policymakers in different countries. However, there is also a significant budget revenue risk associated with tax cuts and possible negative effects on income distribution due to the lower tax burden of high income earners and a higher tax burden of the middle class.

The risk of revenue reduction is high. The cut of the tax rate will increase the revenue only in case when the existing system is above or below the maximum-

revenue point, otherwise, the cutting of the rate causes a decline in revenues. The problem is that determining without empirical estimates whether a country is above or below maximum-revenue point is intricate. The same argument can be applied for labor and investment incentives, because researchers are still not agreed on the effects of taxation on those issues. Some researchers have found that there is no sign of Laffer-type behavioral responses generating revenue increases from the tax cut elements of the flat tax reforms (Keen, Kim, & Varsano, 2006). Thus, large number of policymakers tends to assume that a tax cut would not significantly expand the tax base and that other measures should be implemented in order to avoid a revenue shortfall; otherwise, the cutting of tax rates could destabilize the budget deficit and fiscal sustainability as a whole.

Box 1: Personal Income Tax Rates Worldwide

A majority of countries around the world use a progressive income tax rate. According to OECD data, the highest top statutory income tax rate among OECD countries in 2012 was in Denmark – 60.2% applied to income over roughly \$55,000, whereas the lowest top income tax rate was in the Czech Republic – 15% (which is flat). As for Asia, in Taiwan, Singapore, South Korea and China the top income tax rates are 40%, 20%, 35% and 45%, respectively (Tax Rates for 2009-2010, 2010).

Tax systems with a single tax rate have become popular. Up until 1994, the only jurisdictions with flat tax systems were Hong Kong, Jersey and Guernsey, and Jamaica; however, in 2008 the number having flat tax systems was 24 (Mitchell, 2008). Countries have cut their income tax rates in recent years to attract foreign investment and promote economic growth and the concept of the flat tax rate has been attracting attention from tax policymakers among countries. In Central and Eastern Europe some countries have enacted personal income taxes with single rates and few deductions (Edwards, 2005). A comparison of developing and developed countries indicates that individual income tax rates are much lower in developing countries. Almost all former Soviet Union countries have enacted a flat income tax regime. In some CIS countries the tax rates are among the lowest in the world. For example, in Ukraine the individual income tax rate is 13%, in Kazakhstan, 10% and in the Kyrgyz Republic, 10%.

In some countries there is no tax on an individual income at all, for example, in Andorra, Anguilla, Bahrain, Bermuda, Brunei, the Cayman Islands, and the United Arab Emirates. This is one of the most significant reasons that those countries have attracted the registrations of many businesses from all over the world.

This issue is becoming very important especially taking into account a world financial crisis and problems with debt sustainability. The experience of the countries with a flat tax shows that budget revenues, mainly, have not increased, except in Russia (Keen, Kim, & Varsano, 2006), (Ivanova, Keen, & Klemm, 2005), (Gorodnichenko, Martinez-Vazquez, Peter, & Klara, 2008), (Gaddy & Gale, 2006)), (Miklos, Jakoby, & Morvay, 2005), (Chren, 2005), (Voinea & Mihaescu, 2009). Nevertheless, an empirical study by Ivanova, Keen and Klemm (2005) suggests that the increase of revenues refer to an increase in real wages and is unrelated to the flat tax.

According to an IMF report, a comparison of the structure of the personal income rate schedules in OECD countries between 1986 and 2002 shows significant changes such as (1) the minimum personal income marginal positive rate having dropped from about 19 % to about 14 %; (2) the maximum personal income marginal rate having fallen from about 55% to about 38%; (3) the number of personal income rates having been reduced from eight to four; and (4) the excess of the maximum personal income tax marginal rate over the standard corporate income rate having diminished from about 15 to about 8 percentage points (Zee, 2005). Those changes are

equally applicable for all regional groups (except for the Eastern European countries, for which comparative information in 1986 did not exist); thus, personal income tax rate schedules have become significantly flatter, lower, and simpler over the past decade and a half.

Similar results are supported by Sabirianova et al. Investigating personal income taxation in 189 countries (52% of those low middle and low income countries) over 1981- 2005 years, the researchers conclude that, on average, taxpayers face much low tax burdens with fewer tax brackets than several decades ago (Sabirianova Peter, Buttrick, & Duncan, 2007). Recent tax reforms in many countries suggest an overall trend from a conventional stair-stepped tax schedule to a flatter tax rate schedule.

Many countries have reformed their personal income tax system over the last three decades. All of the reforms aimed to simplify tax systems, to create a competitive fiscal environment in order to give incentives for considerable work efforts, to encourage investment and saving, consequently, to promote economic growth. Yet no obvious agreement has emerged on what is the ideal personal income tax. Taking into account semi-comprehensive income tax systems which make individual use of differences in

tax legislation, rates, exemptions and allowances in order to reduce tax liabilities, many countries are reforming their systems through tax base broadening and lowering tax rates.

An average income tax rate in OECD countries decreased from almost 16% in 2000 to 14.5% in 2010. This reduction suggests that OECD countries rely less on high rates for the top-income earners in the objectives of income redistribution. Moreover, the reduction of the tax rates can be seen as a general trend of lowering tax rates for all income levels (OECD, Reforming Personal Income Tax, 2006).

In 2011 and 2012 the situation has been changed as a result of slowdown in economies and debt problems. As a Figure 1 shows there is an increasing trend of tax rates in average in OECD countries (in 2012 an average tax rate increased up to 15.3%). The main causes of this change in trends might be that governments in many countries face challenges for maintain the appropriate tax revenue level for increasing expenditures, due to ageing of the population and increased social insurance expenditures, high levels of unemployment induced by economic and global financial crises, the need to replace physical infrastructures and remaining government debt.

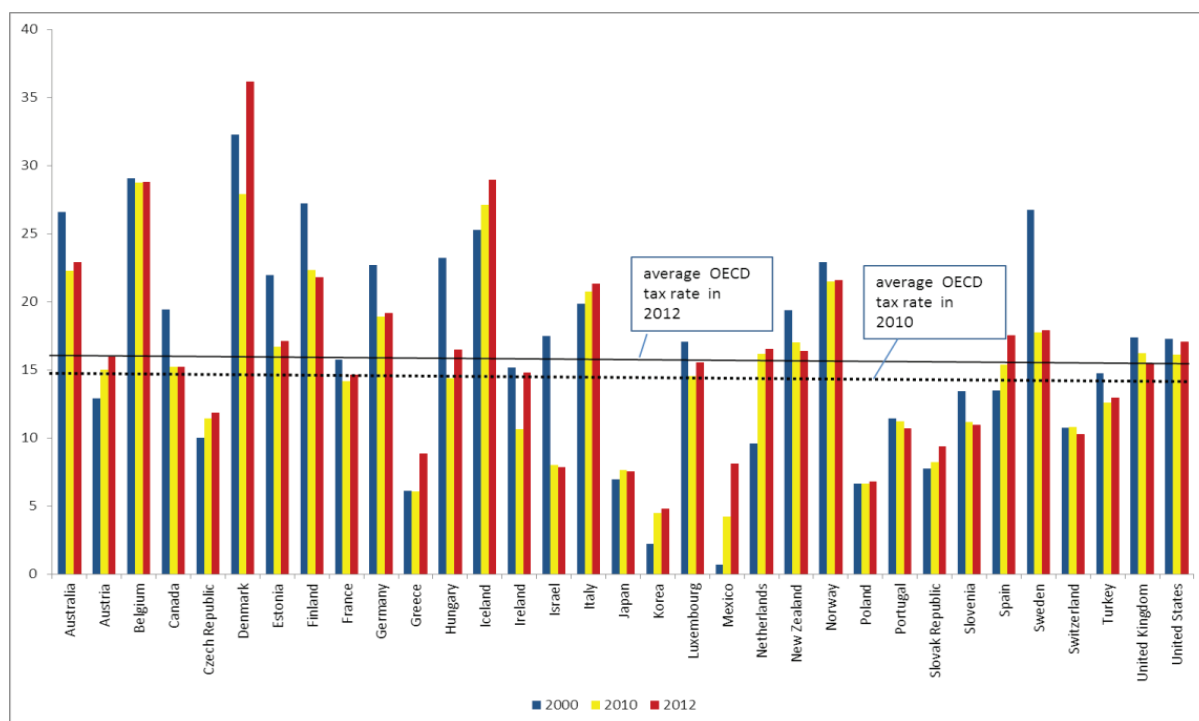


Figure 1: Average Income Tax rate in OECD countries, % (Single person at 100% of average earnings, no child)
(Source: OECD, Revenue statistics: Comparative tables, OECD Tax Statistics database, 2013)

3. PERSONAL INCOME TAXATION IN THE KYRGYZ REPUBLIC

Since 1996 the Kyrgyz Republic has carried out important tax reforms, which have had the effect of broadening the tax base, reducing marginal tax rates, and simplifying the tax structure.

Over the past years there has been an increasing trend in the tax ratio but still the republic has not reached the level of 1990. The ratio of tax revenue to GDP, excluding payroll taxes for the Social Fund, has

been reduced from 25.7% in 1991 to 19.4% in 2011 due to significant changes in the economy structure and transition to the market economy (Figure 2). Starting from 2000 the tax revenue share, excluding social security, to GDP has been increasing from 11.7% to 19.1% in 2008 due to tax reforms and stabilizing the tax regulations after several important amendments of the Tax Code in 1996, 1997 and 1998. In 2009 and 2010 tax revenues were reduced in comparison with 2008 due to introduction of the new Tax Code and political shocks.

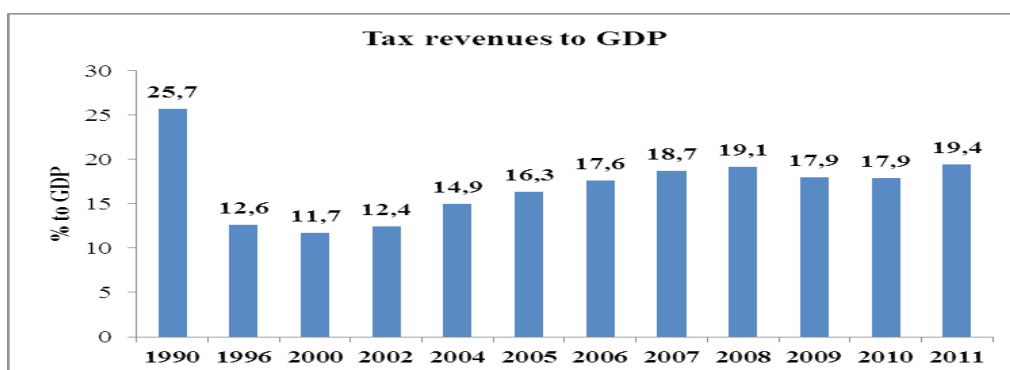


Figure 2: Tax revenue ratio in the Kyrgyz Republic, % to GDP (1990-2011)

Despite of the worldwide experience of mainly lower income revenues due to reduced tax rates and following budget deficit problems, the Kyrgyz Republic implemented a flat tax reform in 2009. The tax reform has been driven by the criteria of efficiency and simplicity considerations. Personal income taxation has been altered significantly due to changes in the tax legislation, because in January 2009 the new Tax Code of the Kyrgyz Republic came into force. In the new Tax Code basically the tax rates have been reduced. For example, VAT has been reduced from 20% to 12%, while the tax rate for personal income has been changed from a progressive rate (the top rate was 20%) to a flat rate (10%). The main purpose of such dramatic changes was to give significant stimulus and incentives to business and individuals to promote economic growth.

As a result of reforms in 2009, the tax structure show a relatively high degree of reliance on consumption tax vis-à-vis personal and corporate taxes (about 40% in tax revenues). The variability of the contribution of personal income tax revenues to total tax revenues was not high in 1990-2011 and the share was stable at the level of 7-10%¹. The Kyrgyz Republic provides a lower personal income tax rate (10%) than other CIS countries along with the neighboring country, Kazakhstan.

The Tax Code was adopted several years ago; yet there are a lot of challenges. Instead of the expected easing of the tax burden and incentives for individuals to work more effectively, there have been unimaginable complications and confusion to taxpayers. One of the specific features of the flat tax design in the Kyrgyz Republic is a "minimal alternative income" which is the minimal tax base. The concept of minimal alternative income in the personal income tax system has brought egregious misunderstanding, confusion in its concept and calculation, and may lead to "wrong" economic incentives and worsening inequality of income distribution. Moreover, the flatter and lower tax rates have reduced the potential tax revenue to the state budget which is an essential issue in a condition of continuous budget deficit. Overall after tax reform in 2009 tax revenues increased in nominal terms by 0.5%. The growth of tax revenues slowed down in comparison to 2004-2008 years when growth was 26.6% in average. Thus, the reform in 2009 did not give an expected result of a significant increase of tax revenues.

Taking into account significant deficit problems in the Kyrgyz Republic a measure of introduction a progressive tax structure for personal income should be considered by the policymakers. This measure will bring additional revenues to the budget.

Nowadays many countries, including the United States and European countries, have been facing serious problems with budget deficits and this will force governments to consider issues concerning tax increases. In the United States for the year 2013, there is a new top tax bracket of 39.6% and additional an Unearned Income Medicare Contribution Tax of 3.8% that applies to net investment income for taxpayers whose modified adjusted gross income exceeds 200,000 US dollars (for single filers) and 250,000 US dollars (for married filing jointly) (Perez, 2013). It means that taxpayers in the highest tax bracket will face a combined 43.4% marginal tax rate on their investment income.

Among countries with the flat personal income tax rate, in Kazakhstan a proposal of the government to change the flat tax schedule to the progressive scheme with a top rate for high income earners at 20% was put forward in the parliament (Kazakh tax forum, 2010). However, despite the proposal to change the progressive tax schedule in 2011, the parliament postponed the decision to 2014.

4. OPTIMAL INCOME TAX RATES ESTIMATIONS FOR THE KYRGYZ REPUBLIC

An increase of personal income tax rates should be carefully investigated due to possible incentive effects. One way to determine an appropriate tax rate is to find an optimal income tax rate for high income earners, which can be done by following an optimal income taxation theory.

The first setup for analyzing the optimal tax structure using a general nonlinear income tax was constructed by Mirrlees (1971). However, the results that Mirrlees obtained regarding the optimal tax formula are very complicated and cannot be easily used in the tax policy-making process or in empirical analysis. Taking into account this disadvantage Mirrlees (1971) wrote

The main feature of the results is that the optimum tax schedule depends upon the distribution of skills within the population, and labor-consumption preferences of the population, in such a complicated way it is not possible to say in general whether marginal tax rates should be higher for high income, low income, or intermediate income groups.

Based on Mirrlees's model (Mirrlees, 1971) Emmanuel Saez proves the link between optimal tax formulas and elasticities of earnings. His study provides a simple way to calculate the optimal tax rates for high incomes. Saez argues that the shape of income distribution plays a critical role in the pattern of optimal tax rate (Saez, 2001), (Brewer,

Saez, & Shephard, 2008). We will mainly focus on the methodology to derive the top optimal tax rate of income tax derived by Saez (2001).

First, assume a tax reform with the small change $d\tau$ in the top tax rate τ provided by the government without changes of the tax schedule for incomes below the top bracket \bar{z} . The tax change has two effects on revenue: (i) a mechanical effect and (ii) an effect due to a behavioral response.

The mechanical effect (M) corresponds to the change in tax revenue without any behavioral response due to the higher tax rate. Taking into account that a taxpayer with income z (above \bar{z}) would pay additional tax equal to $(z - \bar{z})d\tau$, the total mechanical effect among the population above \bar{z} is equal to

$$M = [z_m - \bar{z}]d\tau,$$

where z_m is the mean of income above \bar{z} .

In another form the projected increase in tax revenue is $dM = N[z - \bar{z}]d\tau > 0$

The second effect due to behavioral responses to the tax rate increase leads to the reduction in tax revenue. The average reported income in the top bracket will be reduced by $dz = \frac{-ezd\tau}{1-\tau}$ on average. This creates a loss of tax revenues equal to

$$dB = \frac{-Nezd\tau}{1-\tau} < 0,$$

where e is the elasticity of earnings z with respect to the net-of-tax rate $1 - \tau$, which is defined as:

$$e = \frac{1-\tau}{z} \frac{dz}{d(1-\tau)}. \quad (1)$$

The higher elasticity e means more responsive earnings to the net-of-tax rate and it measures the percentage increase in earnings following a one percent increase in the net-of-tax rate.

The optimal marginal tax rate τ^* for high earners that maximizes tax revenue can be found by balancing the mechanical and behavioral effects. The net effect of the reform on tax revenue can be written as:

$$dM + dB = Nd\tau(z - \bar{z}) \left[1 - e \frac{z}{z - \bar{z}} \frac{\tau}{1 - \tau} \right]. \quad (2)$$

In the optimum this equation must be equal to zero, therefore, the optimal marginal tax rate can be expressed as:

$$\tau^* = \frac{1-\bar{g}}{1-\bar{g}+e^u+e^c(\alpha-1)} \tag{3}$$

where α is a ratio $\frac{z}{z-\bar{z}}$ and a parameter $\alpha \geq 1, \bar{g}$ is a ratio of social marginal utility for the top bracket taxpayers to the marginal value of public funds for the government, and e^u and e^c are uncompensated and compensated elasticities, respectively.

It should be noted that α is equal to the Pareto parameter, because the top tails of distributions are closely approximated by Pareto distributions and z does not vary significantly from \bar{z} (Brewer, Saez, & Shephard, 2008). The optimal top marginal tax rate τ^* is decreasing in both elasticity e and the shape parameter α . The higher α , the thinner is the tail of income distribution; thus, an increase of the top rate for high income earners will give little additional revenue.

The case, when $\bar{g}=0$ corresponds to the situation where the government does not value marginal consumption of high income earners and sets the top rate so as to extract as much tax as possible from high incomes. The formula (3) refers to the high income tax maximizing the tax revenue (Saez, 2001).

Parameter α can be estimated empirically by using actual labor earnings and applying the following formula for unbiased estimator of the Pareto coefficient:

$$\alpha = (n - 2) \left[\sum_{i=1}^n \ln \left(\frac{w_i}{w_{min}} \right) \right]^{-1} \tag{4}$$

where w_i - actual labor earnings for high income level over tail of the income distribution, w_{min} - minimal actual labor earnings for high income level over the tail of income distribution, i – number of observations over the tail of the income distribution.

In order to calculate a Pareto coefficient, the Kyrgyz Poverty Monitoring Surveys (KPMS) data are

used in estimating the outlined empirical model. The KPMS are surveys conducted by the National Statistic Committee annually. Total labor earnings have been calculated by summing up individuals' salary from main wage employment, income from secondary employment, other employment income, in-kind payments as well as various subsidies paid by employers such as transport subsidy, housing subsidy and medical services subsidy.

The calculation of the Pareto coefficient using formula (4) for the Kyrgyz income distribution gives the parameter α approximately equal to 1.67 (108 observations), 1.47 (444 observations) and 1.28 (1004 observations)².

Table 1 presents optimal asymptotic tax rates for the Kyrgyz Republic using Equation (3) for the Pareto parameter of income distribution, compensated and uncompensated elasticities obtained in (Ismailakhunova, 2011) and \bar{g} (taken from Saez (2001). In a study by (Ismailakhunova, 2011) estimations of labor supply elasticities provided by using two types of regression procedures: OLS and Heckman's after controlling for demographic and other differences of individuals. The results of regressions show that average compensated labor supply elasticities for all individuals range from 0.1 to 0.2 and are consistent with other empirical studies (Table 1). The elasticities of labor supply do not differ significantly between male and female subsamples; however, the elasticity for the female sample tends to be smaller, which is different from studies in other countries. The substitution effect of labor supply dominates the income effect from labor for both genders, while the income effect from non-labor sources of income for males has a larger impact on labor supply than for females. The compensated labor supply elasticities are relatively inelastic, signifying a relatively small labor supply response of individuals; thus, the impact of tax rate changes might have a negligible effect on the work effort.

Table 1: Estimated Compensated and Uncompensated Labor Supply Elasticities

Elasticity	OLS	Heckman's
	Whole subsample	
Uncompensated	0,114	0,227
Compensated	0,127	0,239

(Source: Ismailakhunova, 2011)

The optimal tax rates in Table 2 are the optimal tax rates on income assuming that there are no other taxes distorting the leisure-consumption choice. Therefore, an optimal income tax rate τ^* derived by

formula (3) should be reduced to $(1 - t) * \tau^*$ in presence of the consumption tax at rate t . Optimal income tax rates are shown in Table 1, taking into account the VAT tax, which is 12% in the Republic.

Table 2: Optimal Tax Rates For High Income Earners

Pareto parameter, a	Optimal tax rate, τ^*	Optimal income tax rate	Optimal tax rate, τ^*	Optimal income tax rate
	OLS		Heckman's	
Social marginal utility with infinite income $\bar{g} = 0$				
1.28	0.87	0.77	0.77	0.68
1.47	0.85	0.75	0.75	0.66
1.67	0.83	0.73	0.72	0.63
Social marginal utility with infinite income $\bar{g} = 0.25$				
1.28	0.83	0.73	0.72	0.63
1.47	0.81	0.71	0.69	0.61
1.67	0.79	0.70	0.66	0.58

(Source: Author's estimations)

The results of calculations range from 0.58 to 0.87 using different Pareto parameters and assuming different social marginal utility for the country. As Table 2 shows, the larger Pareto parameter a and social marginal utility \bar{g} , the lower top optimal income tax rate should be imposed on high income earners. Estimated tax rates for the Kyrgyz Republic are consistent with previous studies for developed countries, which indicate marginal rates for labor income not less than 50% and as high as 80% (Saez, 2001). The estimated results of the optimal income tax rate show that the personal income tax is quite low in the Republic and can be increased for high income earners without large negative incentive effects on work effort.

5. CONCLUSIONS AND POLICY RECOMMENDATIONS

The analysis of the personal income tax in flat-tax countries indicates that the design of the flat income tax adopted in recent years varies widely among countries. While flatness itself is certainly a simplification, eliminating tax brackets and some potential forms of the rate structure itself are commonly not the primary source of the tax system complexity. The main cause of the complexity comes more from various exemptions and special deductions. The limited survey evidence for the

Kyrgyz Republic, for example, does not suggest that the personal income tax system was widely seen as significantly less complex after adoption of the flat tax. The flat personal income tax system in the Kyrgyz Republic differs from other flat tax designs among other things by the minimal alternative income concept, which is one of the main causes of complexity, egregious misunderstandings, confusion and distortions.

Serious problems with budget deficits and debt sustainability will force governments around the world to consider issues concerning tax increase. The Kyrgyz Republic is not an exemption. Taking into account negative distributional effects of the low flat income tax rate and alternative minimum income as well as potentially weak labor supply response due to relatively inelastic labor supply elasticities, the progressivity of personal income tax can be recommended for the republic. Moreover, results obtained in this study suggest that the top income tax rate for high income earners can be much larger than the current tax rate without significant impact on labor supply. In the mid-term, an increase of the personal income tax rate for high income earners should be introduced by tax policymakers; however, careful considerations of political risks are needed.

END NOTES

¹ As for corporate income tax, the tax revenues have been brought down significantly since 1990. In 2009 the share of the corporate income tax revenue to the total tax revenue was 5,1% (19,1% in 1990).

² For income level more than 30000, 12000 and 6000 soms, respectively.

REFERENCES

- Brewer, M., Saez, E., ve Shephard, A. (2008) *Optimal household Labor Income Tax and Transfer Programs: an Application to the UK*. Retrieved from <http://www.ifs.org.uk/mirrleesreview/>
- Chren, M. (2005) A Fundamental Tax Reform In Slovakia. *The I.Lancut Economic Forum "Reverse Learning"*, (p. 25). Rzeszow.
- Edwards, C. (2005) *Catching Up to Global Tax Reforms*. Retrieved June 28, 2010, from <http://www.cato.org/pubs/tbb/tbb-0511-28.pdf>.
- Gaddy, C., ve Gale, W. G. (2006) *Russian's flat tax: myths and facts*. CESifo DICE .
- Gorodnichenko, Y., Martinez-Vazquez, J., Peter, S., & Klara. (2008) *Myth and reality of flat tax reform: micro estimates of tax evasion response and welfare effects in Russia*. Andrew Young School of Policy Studies.
- Ismailakhunova, S. (2011) *Personal Income Taxation in the Kyrgyz Republic: Effects on Labor Supply*. Bishkek.
- Ivanova, A., Keen, M., & Klemm, A. (2005) *The Russian Flat Tax Reform*. Washington D.C.: IMF.
- Kazakh tax forum(2010) *5th Kazakh tax forum*. Retrieved June 3, 2011, from Kazakh tax forum Web site: <http://www.taxforum.kz/>
- Keen, M., Kim, Y., ve Varsano, R. (2006) *The "Flat Tax(es)": Principles and Evidence*. IMF Working Paper, Washington D.C.
- Miklos', I., Jakoby, M., ve Morvay, K. (2005) *Tax Reform in the Slovak Republic*. CES.
- Mirrlees, J. (1971). An Exploration in the Theory of Optimal Income Taxation. *Review of Economic Studies*, 175-208.
- Mitchell, D. J. (2008) The Global Flat Tax Revolution: Lessons for Policy Makers. *Prosperitas*, VIII(1), 1-12.
- OECD. (2006) Reforming Personal Income Tax. *Policy Brief*, 1-8.
- OECD. (2013) Revenue statistics: Comparative tables, OECD Tax Statistics (database).
- Perez, W. (2013) *Tax Rates for the 2013 Tax Year* . Retrieved from Tax Planning: US: <http://taxes.about.com/od/Federal-Income-Taxes/qt/Tax-Rates-For-The-2013-Tax-Year.htm>
- Ryan, E. (2010) *Six Months to Go Until The Largest Tax Hikes in History*. Retrieved June 2, 2011, from Americans for Tax reform: <http://www.atr.org/six-months-until-largest-tax-hikes-a5171#ixzz1OfePjAvm>
- Sabirianova Peter, K., Buttrick, S., & Duncan, D. (2007) *Global reform of personal income taxation, 1981-2005: Evidence from 189 countries*. Working paper.
- Saez, E. (2001) Using Elasticities to Derive Optimal Income Tax Rates. *Review of Economic Studies*, 205-229.
- Tax Rates for 2009-2010. (2010) Retrieved June 28, 2010, from <http://www.taxrates.cc/>.
- Voinea, L., ve Mihaescu, F. (2009) The impact of the flat tax reform on inequality. The case of Romania. *Romanian Journal of Economic Forecasting*, 19-41.
- Zee, H. H. (2005) *Personal Income Tax Reform: Concepts, Issues, and Comparative Country Developments*. Washington D.C.: IMF.

