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Tax Reform in Slovakia

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1. Introduction

Having won the 2002 general elections, the new Slovak government initiated a number of reforms, including a radical reform of the tax system. The goal of the tax reform was to eliminate the complications and ambiguities of the current taxation system, and to “tax all kinds of profit and all heights of profit equally and thus achieve the maximum possible equity” (INEKO, 2004). The new legislation came into effect on the 1st of January 2004.

In this article we aim at evaluating the tax reform, as it was proposed by the Ministry of Finance, applying the optimal taxation and optimal tax systems theory. We try to identify both strengths and weaknesses of the proposal. In the second section we shortly summarise the concept of the Slovak tax reform, in the third section we review the basic theory of optimal taxation, and in the fourth section we analyse whether the proposed income and commodity taxes are optimal. In the final section we conclude that the new tax system in Slovakia is optimal.

2. The Concept of Tax Reform

Richard Sulík, the man behind the reform, maintains the new system is built on the following principles:

- *Equity*. Horizontal equity – people with equal incomes are taxed equally. Vertical equity – people with higher income pay relatively (in percentage terms) higher tax. When the tax is linear, this can be achieved by personal allowance.
- *Neutrality*. Taxation should not distort economic processes and decisions of economic agents.
- *Simplicity*. Rules must be simple, easy to understand and unambiguous, and allow minimal administrative costs for each level of tax revenue.
- *Effective*. The system should not provide a possibility to avoid taxes whether legally or illegally. The higher the number of exemptions, the easier the possibility of tax avoidance.

Apart from these principles, the reform also encompasses another theory:

- Direct taxation should aim at serving only fiscal purposes and should not be used to meet other goals, such as social policy.

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- Tax principles should be implemented without bias to any group.
- If taxes are perceived as unfair, people are more likely to avoid them.
- The tax reform should comply with EU legislation.

Incorporation of these principles led to the reformed tax system composed of linear personal and corporate income taxes, immovable property tax, automobile tax (direct taxes), VAT and excises (indirect taxes).

Linear income tax. The incomes of all subjects (physical and legal entities, domestic and foreigners) are taxed by a single rate of 19 %. The difference is only in the way the tax base is calculated (for instance, an employee can reduce his/her tax base by insurance contributions paid and personal allowances).

Value added tax is set at 19 %. Exemptions to this rate should be allowed only if EU guidelines command. The threshold for VAT registration has been reduced from SK 3 million annual revenues to SK 1.5 million.

Excise Taxes. The reform increases almost every kind of excise tax. The two objectives are compliance with EU guidelines and compensation of possibly reduced tax revenues due to lower income tax rates.

Abolished taxes. Donation and inheritance taxes were abolished, because they were perceived as a double taxation of assets, which have been previously taxed.

3. The Theory of Optimal Taxation

How do we know if one tax system is better than another? The literature (Heady, 1993) seems to agree on three criteria of optimal taxes:

- (1) taxes must be fair;
- (2) tax administrative costs must be minimised;
- (3) the disincentive effects of taxes must be minimised.

These separate criteria can be treated together within a concept of social welfare function, which, summarizing utilities of individuals into the utility of the whole society, is able to reflect social preferences, namely concern for equity.

The social welfare function may take the following form:

$$\text{Social welfare} = \frac{1}{1 - \varepsilon} \sum_h (u^h)^{1-\varepsilon} \quad \text{for } \varepsilon \neq 1$$

$$\text{Social welfare} = \sum_h \log(u^h) \quad \text{for } \varepsilon = 1$$

Where u^h is the utility of an individual (or household) h , positively dependant on her income and negatively on her labour supplied, and ε is the degree of concern for equity. If $\varepsilon = 0$, the society is not concerned about inequality, whereas, if ε is positive, increases in individual u^h are transformed into less than proportional increases of aggregate $\frac{1}{1 - \varepsilon} \sum_h (u^h)^{1-\varepsilon}$, which implies that less weight is attached to a given absolute increase of

utility for an individual with an already high level of utility, than to others with lower levels of utility.

All taxes affect the behaviour of subjects to some extent; in the case of an employee, taxes affect how many hours they are willing to work, i.e. what is their labour supply. The overall effect of tax change is decomposed into an 'income effect' and 'substitution effect'. The income effect is a synonym for one's willingness to work more in order to compensate for income lost due to taxation. The substitution effect goes in different direction: as the higher tax reduces the marginal return to work (each hour of work is less rewarding), a person is willing to work less (decrease their labour supply), because working becomes less "profitable". The composite effect of these two, which is ambiguous, determines elasticity of the labour supply¹. If the labour supply is highly elastic, an increase in tax leads to a considerable decline of hours worked, while if it is inelastic (approaching zero), a tax increase would have little effect on the number of hours worked.

4. The Income Tax

Income taxation embraces personal income tax (PIT) and corporate income tax (CIT). Because the optimal tax theory covers specifically, the more complex PIT, it will also be our focus. Then we will consider if the same tax rate is appropriate for corporations.

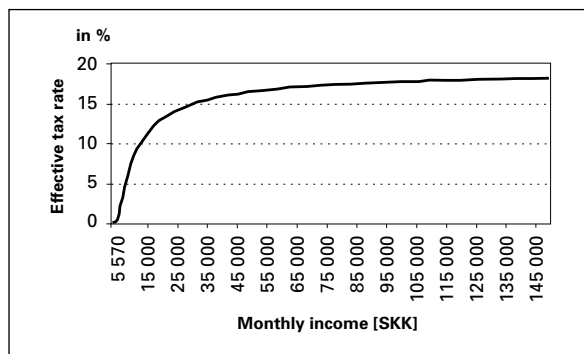
Mirrlees (1971) analyses both non-linear taxation (the old tax system in Slovakia) and linear taxation (the new system). The important factors influencing the net effect of a tax increase on social welfare in the case of non-linear taxation are:

1. compensated elasticity of labour supply (a high elasticity will mean that the net revenue gain is either small or negative, so a tax increase is less likely to increase social welfare);
2. degree of concern for inequality (the higher the concern for inequality, the higher is the probability of increased social welfare);
3. degree of income inequality (the higher the inequality, the higher the probability of increased social welfare);
4. proportion of the population above the range of the tax increase (the higher the proportion, the higher the probability of increased social welfare).

The implication of the latter factor is that the marginal tax rate of a person with the highest income should be zero, because raising it above zero will not generate extra revenue. This argument can be extended to the finding that the marginal rate should be decreasing in contrast to the common practice of increasing marginal rates. The logic goes as follows: if the marginal rate for a high earning person is increased, they will experience the above mentioned substitution effect (incentive to decrease their labour supply) and income effect (incentive to increase their labour supply). However, because the new rate applies only to a small proportion of their income, the size of the reduction in their after-tax income is small, and

¹ i.e., percent change in labour supply given percent change in the tax rate

FIGURE 1 The Progression of Income Tax



the substitution effect dominates – the person pays less taxes. Hence, no matter how redistributive the government is (or pretends to be) the optimal tax schedule for the highest earners (top of the income distribution) should have a declining marginal rate.

Mirrlees also extended this theoretical result for the top of the income distribution to the complete optimal tax schedule. He found a very small decline in the marginal rate over most of the income distribution; so small that the optimal income tax schedule can be approximated by a constant marginal rate, i.e. a linear income taxation. In this respect, the income tax proposed in Slovakia is in line with theoretical recommendations.

Certain tax progression can be achieved by maintaining a fixed income allowance (i.e. the amount of income that is not taxed; the Slovak reform suggests SK 80,832 instead of the existing SK 38,760). Caminada and Goudswaard (2001) showed in the example of the Netherlands that linear tax combined with fixed income allowance maintains satisfactory level of progression measured by the Gini coefficient. Again, the Slovak proposal is in line with the theoretical literature (see also *Figure 1*).

Is a tax rate of 19 % correct? Stern (1976) included in his model concern for equity, compensated the elasticity of labour supply and the size of the government's revenue requirement. His results showed that the optimal marginal rate of income tax is higher for:

- lower values of the compensated elasticity of labour supply,
- higher degree of concern for inequality,
- greater inequality in pre-tax wages,
- higher government revenue requirement.

The actual rates then range from 54–90 %, and include all tax burdens (VAT, excises, compulsory insurance contribution – because of the weak link between marginal contributions and the level of benefits). Atkinson (1995) conducted analysis to find out the optimal linear tax. He used the same first three parameters as Stern to derive the formula:

$$\frac{t}{1-t} = \frac{1}{\varepsilon} E \left[\frac{wL^S}{E(wL^S)} \left(1 - \frac{\Gamma'(V)}{\lambda} \right) \right]$$

where t is the tax rate, ε is the elasticity of labour supply, $\frac{\Gamma'(V)}{\lambda}$ is the normalised change in the social welfare function if the income of a social group is increased (degree of concern for inequality) and $\frac{wL^s}{E(wL^s)}$ is income of a social group in comparison to the average income (inequality in pre-tax wages). Using this equation we can derive the optimal income tax rate. For example, in the case of the Rawlsian social welfare function (where all the weight in the social welfare function is put on the poorest person) and unitary elasticity of the labour supply, the optimal rate is 50 %.

As mentioned before Caminada and Goudswaard found that in the Netherlands, a 27.7% linear rate would be fiscally neutral. It is difficult to make any suggestions to Slovakia, but because the Slovak proposal aims for overall fiscal neutrality (not just PIT) using also other higher taxes, a rate lower than 27.7 % should be expected to be neutral.

Developing countries usually apply multiple rates of CIT, differentiated along sectoral lines. This is, however, detrimental to the proper functioning of market forces and distorts the sectoral allocation of resources (Tanzi, 2000). In the case of Slovakia, a single rate of 25 % already exists for corporations. The problem of the old system was in the significant difference between the CIT and top marginal rate of the PIT (38 %). The difference distorted business decisions – doing business purely for avoiding high PIT. Tanzi argues that equalising the CIT and the marginal PIT rate is a preferable way to remove this distortion.

5. The Commodity Tax

The theory on optimal taxation quotes analysis by Ramsey (1927). Under the assumption, that demand for particular goods is independent of the price of other goods, he derived an ‘inverse elasticity rule’: goods with higher price-inelastic demands should be taxed more heavily. The rule has wide influence and its basic rationale – that the taxation of inelastic goods yields more revenue, because demand only falls slightly – is probably responsible for the taxation of alcohol, tobacco and petrol all over the world.

A different perspective was shown by Corlett and Hague (1953), who looked on the situation where there are two consumption goods taxed at the same rate and asked whether efficiency could be improved by introducing some non-uniformity (raising the tax on one good and lowering the tax on the other). They showed that, if the goods differed in their degrees of complementarity’s or substitutability with leisure, efficiency could be improved by increasing the tax rate on the goods that were most complementary (or least substitutable) with leisure and reducing the tax rate on the other goods. Heady (1987) showed, these two views are consistent (if demands are independent) because the goods which are most complementary to leisure will also be the goods with the most inelastic demand curve (e.g. alcohol). The Slovak tax reform (and also the old system) uses these principles in the form of excise tax on alcohol, tobacco and petrol.

Heady (1993) argues complementarily with leisure could not be the only reason for such high rates as they are used in most countries. The justification must be found in terms of externalities that the consumption of these goods imposes on other people or on basis of a paternalistic concern for the consumer's health. Taking into account these aspects high special rates on this kind of consumption is legitimate. The proposed increase in the excises (generally above the directives of the EU) also seeks a revenue purpose. The overall decrease in income tax may, especially in the short run, lead to a budget shortfall, and an increase in excises is a remedy.

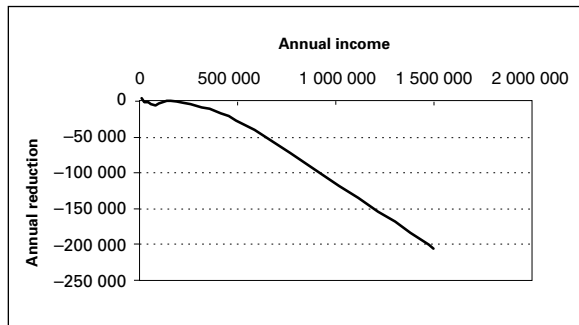
Turning away from "externality producing commodities", the important notion that has to be added to the inverse price elasticity rule (or leisure complementarily) is the question of the income elasticity. While the former deals with efficiency (the highest revenue to be collected), the latter handles equity. Many goods with low price elasticity, also have low-income elasticity (therefore, they are necessities), so raising the tax rate will hurt low-income individuals. Hence, goods requiring different tax treatment would have to be divided into clusters by their income elasticity. Necessities would be taxed lower than luxuries (goods with higher income elasticity). Indeed, most OECD countries have at least two rates, the standard rate and the reduced rate.

Deaton and Stern (1986) showed that it is better to give households direct payments, than to reduce tax on particular goods, because the reduction in the tax will benefit the rich more, as they buy higher quantity of that good. (Ján Tóth noted: "State should not subsidise electrical heating of swimming pools nor the price of bread for the rich citizens." (Jaroš, 2003)). Cnossen (1998) adds that exemptions on social, health, education, social and cultural services violate the neutrality criterion and should not be used. However, he also argues that dual VAT is preferable for low-income countries, which face major constraints in low administrative capacity to tax personal income and to operating income support programs. Low-income countries often have dualistic economies with class-differentiated consumption patterns that lend themselves more easily and effectively to the alleviation of the regressive impact of consumption. On the other hand, in high-income countries, reduced rates are not an effective way of alleviating the tax impact on the poor. The consumption patterns of low and high-income groups have converged, so that reduced rates benefit more the rich. Differentiated VAT rate structures, moreover, greatly increase administrative and compliance costs, particularly of small businesses.

6. Other Issues of the Tax Reform

One of the theories of the tax reform is that perception of tax fairness influence the extent of tax avoidance. This thesis can be viewed as the extension of Musgrave (1959) 'spite effect'. As he proposes, imposing an unfair tax may call forth a feeling of anger, a desire to hit back and inflict losses on the government. In the original argument people react by reducing one's work effort and hence one's tax base. However, other different ways of revenge are imaginable – evading taxes either by creative accounting, improper reporting of income or simply by not paying taxes. As the tax

FIGURE 2 Annual Reduction in the Tax Burden



level decreased substantially (PIT from 38 % and CIT from 25 % to 19 %), they are popular with the taxpayers. According to the recent polls, more than three quarters of Slovaks thought the old tax system should be reformed. (Javorský, 2003)

Slemrod and Sorum (1984) elaborate on administrative costs of tax systems, which may be quite high (e.g. 7 % of tax revenue in USA). The current overgrown legislation is hard to process even for better motivated people, than tax officers. Complicated legislation is also ambiguous and many issues had to be resolved either at the discretion of tax officers or by the courts. Also in this area, the reform may be a positive step forward: uniform income tax and a single VAT rate are consistent with the desire to decrease administrative complicatedness and hence to decrease administrative costs.

Once Slovakia enters the European single market, the destination principle (a good is taxed by the rate of consumer's country which ensures that producer competitiveness is not affected by the tax rate in her country) could not be effectively used to prevent the distortion in the relative prices – because of removed boundary controls. Sinn (1990) points out that other proposed methods of how to solve this problem (the invoice and the subscription) will not do the job. He argues that tax harmonisation is the only way to prevent efficiency loss resulting from distortion caused by different tax rates in EU member countries. The Slovak reform sets a single rate that is preferred to multiple, more difficult to harmonise VAT tax systems.

Similarly, the corporate income tax rate is important from the international perspective. Lower rates can attract more capital to Slovakia and increase tax revenues. Although other countries (following prisoners' dilemma scenario) will most likely also decrease their tax the rates in future, Slovakia may still take advantage of its leadership until they do so.

The important issue to consider is the effect of the reform on particular social groups, tax incidence. The proposed PIT would not increase the tax burden of any income class (see *Figure 2*). The low-income class (earning annual income of 10,000 to 30,000 SK) and numerous middle-income class (140,000 to 210,000 SK) would pay the same taxes, while the other groups will pay lower taxes.

With a proposed single 19% VAT, it is obvious that while the tax reform may be fiscally neutral (the average taxpayer will pay the same taxes), the group effects may be different (some people will pay higher taxes). However, since the Gini coefficient measuring the inequality of income is inherently low (among OECD countries approaching the most equalitarian Scandinavian states (Human Development Reports, 2003)), the change that may generate greater inequality based on desert principle is justifiable.

7. Conclusion

We have examined the new Slovak reform of the tax system, using current optimal taxation principles. After describing the basic theoretical principles and findings, and comparing them to the new tax system, we have concluded that a flat rate of income tax (both personal and corporate) is consistent with optimal taxation. Abolishment of the reduced VAT rate is also a positive step forward. Both these changes also alleviate administrative costs and should reduce tax evasions (especially in VAT). Finally, the new tax system is also Pareto optimal.

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SUMMARY

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Tax Reform in Slovakia

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The paper evaluates recent tax legislation in Slovakia, effected January 2004, according to principles of optimal taxation and optimal tax systems. The author evaluates Slovak tax reform with particular regard to personal income tax and commodity taxes. The adoption of a flat personal-income-tax rate and a uniform VAT rate is viewed as in line with the optimal taxation theory, and the projected lessening of administrative costs and degree of tax evasion is positively evaluated.