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ENVIRONMENTAL TAX REVENUE AND ENVIRONMENTAL CONSCIOUSNESS IN THE EUROPEAN UNION

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SUMMARY

There is a relationship between the rate of environmental taxation and the environmental consciousness of EU member states. The tax revenue collected in environmentally conscious member states is greater than that in the V-4 states (Visegrád states: Hungary, Czech Republic, Slovakia and Poland) or in the less environmentally conscious EU-15 states. Of the V-4 states, the environmental tax revenue is collected at the highest rate in the Czech Republic, which is the best situated in terms of the environment and the least amount of tax is collected in Hungary, where the environment is in the poorest state.

1. INTRODUCTION

A requirement of accession to the European Union is that the joining country harmonises her own laws with the system of EU laws. During pre-accession preparations the Hungarian government considered environmental protection as a priority and adopted the statutory provisions of environmental protection of the EU. All the directives and subsidiary principles laid down in the Maastricht Treaty could ensure the necessary flexibility, and could provide opportunity for the legislation of certain countries to consider special local interests. The actual direction however points toward integration of regulations.

The basic objective of my work was to show that there is a relationship between environmental consciousness and taxation system. During the study I did my best to uncover the relationships between certain facts. My basic assumptions were as follows:

- the environment is in a better state in countries with greater environment consciousness,
- environmental tax revenues play a relatively greater part in the structure of tax systems in countries with greater environmental consciousness.

2. MATERIAL AND METHODS

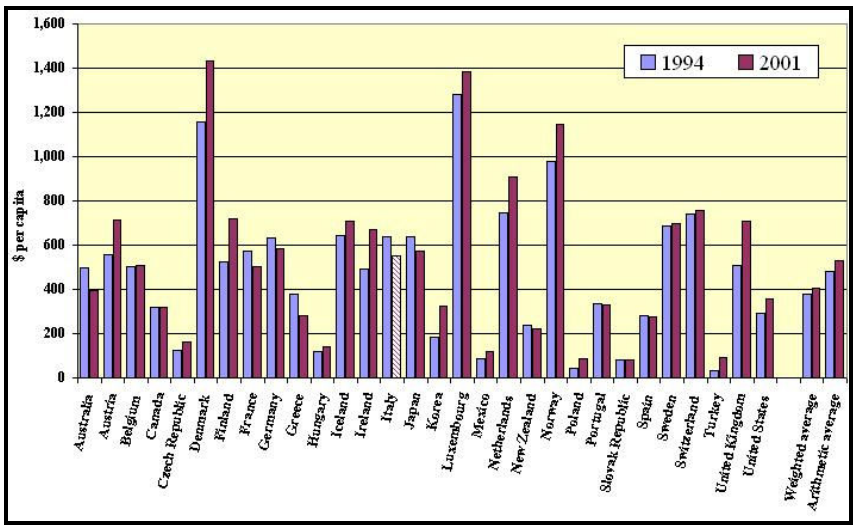
The concordance–coefficient calculation was applied in studying the construction of tax systems. The means of general economic policy and environmental taxes were further examined on the basis of data from EU-15 and V-4 countries emphasising Hungarian relationships. Environmental taxes were studied in EU-15 and V-4 states from the following aspects:

- environmental taxes per capita ($/capita; Fig. 1)
- the environmental tax share (%). In this case shares were compared in terms of the percentages of the GDP (Fig. 2) and of the percentages of the total tax revenue (Fig 3.). According to OECD definitions the environmental tax is a centrally collected tax closely associated with environment protection, but does not nec-

essarily come under that name. I used the concordance-coefficient calculations in analysing environmental protection taxation (Kerékgyártó-Mundruczó, 2000).

Figure 1

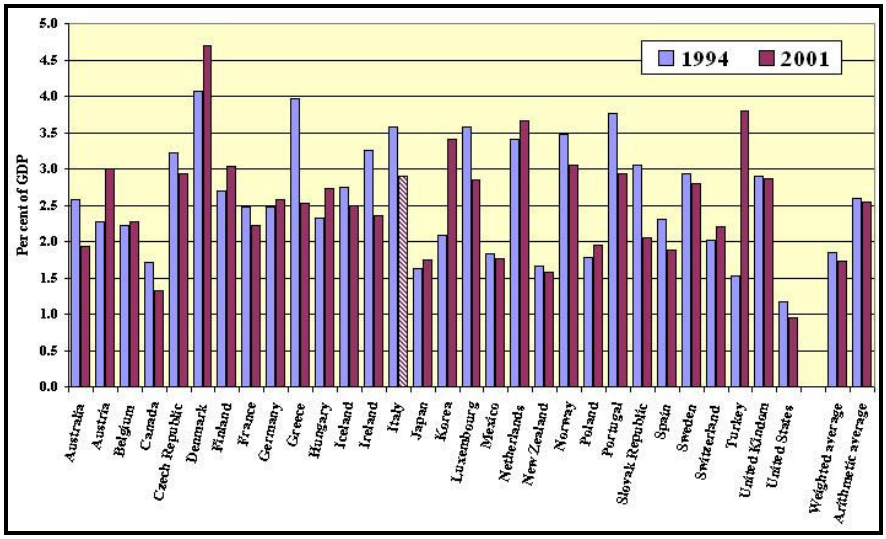
Revenues from environmentally related taxes per capita



Source: **OECD** Environmentally Related Taxes Database 2004

Figure 2

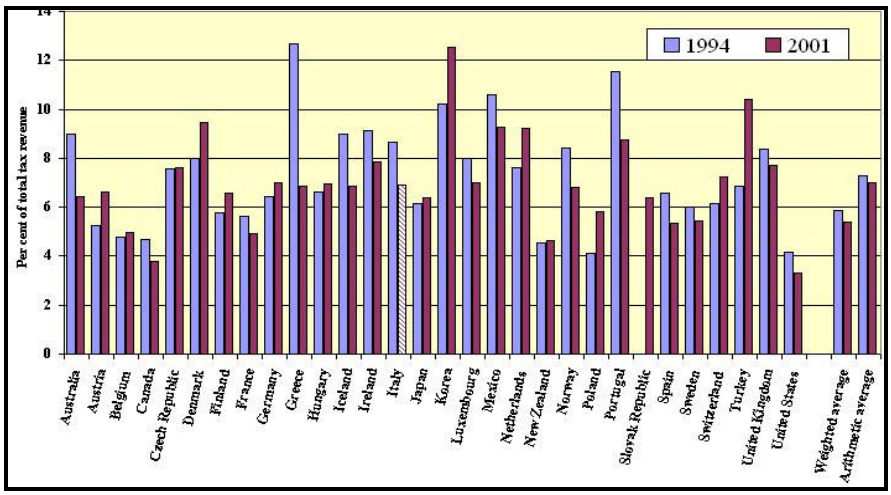
Revenues from environmentally related taxes in per cent of GDP



Source: OECD Environmentally Related Taxes Database 2004

Figure 3

Revenues from environmentally related taxes in per cent of total tax revenue



Source: OECD Environmentally Related Taxes Database 2004

3. RESULTS

According to the concordance-coefficient calculation applied in analysing environmental protection taxation (Table 1), of the five most environmentally conscious countries (*Germany, Netherlands, Sweden, Austria* and *Finland*, Buday-Sántha, 2002) the rank number of four was lower (that is more favourable) than average, while for four of the five least conscious countries (Greece, Portugal, Spain, Belgium, Ireland) the rank number was higher (that is less favourable) than average. The rank number of the V-4 sates was higher than average in each case. Of these the Czech Republic had the most favourable rank and Hungary the least favourable rank.

Table 1

Concordance-coefficient calculation

X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Y	1	3	4	6	13	16	10	7	2	5	17	9	14	8	12	11	19	18	15
Z	1	2	13	8	5	16	9	10	2	17	14	6	4	19	18	7	15	12	11
C_j	3	7	20	18	23	38	26	25	13	32	42	27	31	41	45	34	51	48	45
$C_j - \overline{C}$	-27	-23	-10	-12	-7	8	-4	-5	-17	2	12	-3	1	11	15	4	21	18	15
$(C_j - \overline{C})^2$	729	529	100	144	49	56	16	25	289	4	144	9	1	121	225	16	441	324	225

- *X:* environmental taxes per capita ($ /capita)
- Y: environmentally related taxes in per cent of GDP
- Z : environmentally related taxes in per cent of total tax revenue

$\overline{C} =$ 30

$\overline{C} =$ $\sum (C_j - \overline{C})^2 = 3447$

$$W = \frac{12 \cdot 3447}{3^2 (19^3 - 19)} = \frac{41364}{61560} = 0,6719$$

Table 2

Country groups

Countries	(C_j)
Germany	*13*
Finland	*18*
Netherlands	*20*
Ireland	**25**
Sweden	*26*
Portugal	**31**
Czech Republic	34
Austria	*38*
Greece	**41**
Belgium	**42**
Spain	**45**
Slovakia	45
Poland	48
Hungary	51

4. CONCLUSIONS

Countries held to be the most conscious of their environment according to the literature have the best environmental conditions. There is a relationship between the rate of environmental taxation and environmental consciousness of member states. Environmentally conscious states collect a greater amount of revenue related to the environment than the V-4 states or the members of the EU less conscious of the environment. There is a clear relationship between the amount of taxes collected and the state of environment. Of the V-4 countries the Czech Republic collects the most environmental tax and possesses the best environment. Hungary collects the least amount of environmental tax and has the poorest environment. The investigation has shown that there is a relationship between environmental consciousness and environmental taxation. In countries where citizens are environmentally more conscious environmental taxes play a more important part of the taxation system.

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