SZENT ISTVÁN UNIVERSITY

GÖDÖLLŐ

Faculty of Economic and Social Sciences

Management and Business Administration PhD School



Thesis

FINANCIAL ASPECTS OF THE USAGE OF BIOFUELS, FURTHER DEVELOPMENT OF THE REGULATORY BACKGROUND

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BACKGROUND AND OBJECTIVES

The consumption of raw materials of combustion fuels and of traditional enegy carriers is prooving to be more and more difficult as years go by. Globally this is reflected be the fact that the energy resources are exhaustable and locally by the uneven geographical distribution of those assets. Following from this Hungary may face on a short to medium term an increased import dependency and on the lung run the constriction of its energy reserves. The sesitivity of this factor is multiplied by our international obligations to limit the emission of poisonous materials.

The initiative to disperse the widespread usage of bio fuels is considerably dependent on the fiscal benefits granted by the state (excise duty, value addaed tax, or state subusidies) at the same time this area is more and more oveshadowed by the sensitive economic budgetary position of the country. Just as an example the bio-diesel program has been on the table for years. The bio diesel produced through chemical extraction, esterisation from rape or sunflower oil is producing much less CO2 exhaustion then the usage of diesel petrol. Due to the fact the plants do not contain any sulphur therefore they will not pollute the environment either.

By getting into the environment they will disseminate through natural decomposition without polluting the soil or the ground waters. The production of the bio diesel will not only need the continued subsidy of the manufacturing process but it needs separate financial resources to invest into the manufacturing plants themselves as well.

As a tax expert I feel it extremely important to compile such a comprehensive report on this matter which dwells upon the main reasons of other disciplines in relation to the application and promotion of bio-fuels and their motives from historical perspective. At the same time I would like to measure precisely the effect of the individual financial benefits in relation to the all time situation of the budget deficit, the income generated from excise taxes and the sales of traditional fuels by relying upon the experience of West European countries.

Set of objectives

In order to complete my main set of objectives of my research I have set up the following sub headings to my self

- The usage and promotion of bio-fuels from historcial perspective
- The evaluation of the current regulations applicable to bio fuels in West Europe and escpecially in Hungary
- To illicidate the necessity of a long term national program as well as suggestions in relation to the necessary means and set of administrative infrastucture
- Setting up possibilites and directions for the future use (in relation to the regulative measures, the state subsidies as well as to the protection of the environment)

Hypothesis

When setting up my objectives I have relied upon the following assumptions

- **H:1** A long term energy strategy is indispensible in order to provide a secure and reliable vision for the actores in the agriculture on one hand and for the car manufacturers and bio fuels producers on the other
- **H.2** In order to provide a comprehensive regulatory system we have to define the scope and content of the state measures as well as their effets on the budget and social and economic environment
- **H.3** The so called Altener Program envisages a concrete 12% participation of the renewable energy resoucres for the members of the European Union until year 2020. In case of Hungary in order to achieve the set targets it is not enough just the cherry pick on or an other rule the entire regulatory system must be drawn up in a comprehensive manner by taking into account the economic, social, environmental and agricultural considerations.
- **H.4** In order to promote the conpsumption of bio-fuels the scope of financial benefits must be extended, i.e. further initiatives are necessary
- **H.5** In case of bio fuels similar to E85 fuel we have to grant an excise duty exemption in order to promote its wider application and to increase its share int he consumption.

In the course of my research I have tried to build the issues on and around four pillars i.e. on the environmental regulations set by the Kioto Agreement, on EU's Alternative Energy Program, on the agricultural policy issues as well as on the tax income generated for the state budget.

2. RESEARCH MATERIAL AND METHODOLOGY

The practical foundations of my research paper were laid down during my financial and taxation work experince at the Turnover Taxes and Customs Department Ministry of Finance where I worked after finishing my high school and university studies. In the course of my work I have had the chance to learn the system of the public administration itself, the way laws are inacted the day-to-day decision making process at the ministry, the anomalies of the interdepartmental co-ordination between the ministries and the implementation practice of the lower level executive authorities.

The theoratical background of this work was based on my research during the PhD training and thereafter the result of which has been regularly published at conferencies and in special financial papers. These reseaches were in the first instance secunder studies. The primer ones were carried out at the companies concerned and at the ministerial departments involved. This work was creating the base which was later on reconfirmed by qualitative data collection and face-to-face interviews with indutry personalities and I have carried out survey based on qustionnaires as well.

During the initial phase of my research I have made interviews withe the directors of several company, lobbying group, heads and sub heads of department at the ministries and people the the relevant desks as well. The information obtained during these interviews helped me to work out the methodology of the quantitative data collection and have re-confirmed the soundness of my assumption. The interviews were carried out in the form of informative discussions as this ensured that I could get a much closer picture of their problems and real concerns which arise at a company in the course of the day-to-day business i.e questions of the daily financing activities.

Based on the information and data obtained I have compiled a data base and carried out cost/benefit comparisons in order to support the return of the investment calculation. The second part of my work the research of the selected bibliography was carried out by the way of system analysis. In the course of this work I have looked at the contemporary international literature which helped me to get an up-to-date picture of the manufacture and consumption bio-fuels both at national and at international level. As step two I have turned to the classic economic works, publications which lay down the foundation of the theoretical framework of my research. This brings me up to the review of the results of my research. In the course of may works I have formulated a basic four pillar approach which can illucidate the complexity of the issue and the different choices available.

3. RESULTS

3.1 Production of biofuels and their usage in Hungary

Hungary is a country that has favourable natural endowments for agricultural production, but, as a consequence of this and the lack of comprehensive agricultural strategy, it is continuously struggling with potential overproduction resulting in revolving crisis situations in certain markets.

In Hungary the production of sunflower is fairly higher than the production of rape, this is also characteristic for other European countries. The volumes are different in the countries, which depends on the size of the land and on the climatic conditions of the given territories. The total size of territory on which rape is grown exceeds 115 000 hectares in Hungary, where approximately 180 000 tons of rape can be produced. According to the experience that from 3 kilograms rape 1 kilogram biodiesel can be produced, from the above mentioned quantity 60 000 tons a biodiesel can be produced.

Bioethanol capacity in Hungary

By 2010 Hungary may achieve appr. 1 Million tons of bioethanol through the existing biofuel factories, this means that Hungary can complete the EU requirement even if there will be some export as well. For the 1 Million tons of bioethanol the yearly overproduction of maize (3 million tons) can deliver the raw material. However the current technology which is growing significantly there is a small chance to reach the objective for 2020. Because of the raw material and territorial burden the bioethanol objectives can be completed only with the second generation production methodology.

3.2 Taxation framework

In Hungary the biofuel programme has been on the agenda for several years, but actually there have been few results. This is due to the fact that the regulatory background is still not efficient. What does it mean exactly? The Act on excise duty ensures tax exemption for bioethanol but not for biodiesel. It is obligatory to use a 4.8% bio-component in all kinds of petrol for sale; otherwise an additional tax has to be paid. However, it is clear that these

incentives are not enough. If we look at the facts we can see that the demand for bioethanol (E85) is growing while there is no production of biodiesel. At present in Hungary biodiesel can be produced only at a loss (please see the price structure of it based on the effective tax rates.) It is worth taking a look at the chart below that shows how competitive the price of biodiesel is in comparison with that of gas oil (diesel fuel) by taking into account the current excise tax rates. Due to the fact that 100% biodiesel is not available for sale in Hungary we can compare only the import price and not the retail price with the wholesale price of gas oil.

Price of biodiesel vs diesel

	100% biodiesel (RME) price	EUR / tons	805,00
	HUF / EUR exch rate	2010.02.01	270,71
	100% biodiesel (RME) import		
	price	HUF /tons	217921,55
	Density	g / cm3	0,88
	100% biodiesel (RME) import		
	price	HUF / liter	191,77
		HUF / 15 degree C	
	Excise duty	liter	97,35
a.)	100% biodiesel (RME) net price inc. excise duty	HUF/ 15 degee Celsius liter	289,12
b.)	MOL gas oil whole sale price (1sth Feb 2010)	HUF/ 15 degree C liter	240,07
c.)	Difference (c = a - b)	HUF/ 15 degree C liter	49,05

It can be seen that the price of biodiesel is more than HUF 49 higher per litre than the price of standard diesel.

If we examine the effect of excise duty exemption of bioethanol content in case of E85, the situation is the following.

Excise duty	HUF/1000 liter	15 525
Wholesale price of E85 with		
85% bioetanol	HUF/1000 liter	180146
Retail margin 6,5%	HUF/1000 liter	11 709
VAT 25%	HUF/1000 liter	47964
Retail selling price	HUF/1000 liter	239 820
Retail selling price	HUF/liter	239,82

Source: Hungrana Zrt

E85

Excise duty	HUF/1000 liter	120 000
Wholesale price of Euro		
Szuper 95 petrol	HUF/1000 liter	247198
Retail margin 3,4%	HUF/1000 liter	8002
VAT 25%	HUF/1000 liter	63800
Retail selling price	HUF/1000 liter	319900
Retail selling price	HUF/ liter	319,90

ESZ 95

It can be seen that there is an appr. HUF 80 difference between the retail sales price of E85 per litre and that of ESZ 95. This result arises from the different excise duty levied on the two fuels but we must add that the world market price fluctuation of crude oil (the price of crude per barrel has been higher than USD 70 for a long time) has considerably increased the prices of fuel at the local markets.

However, this price difference (HUF 80 per litre) is offset by the 20% higher consumption of cars running on E85, i.e. although we can buy it at a lower price, we will have to use more of it. At the same time the higher octane rating of bioethanol delivers a 10-20 HP jump in power output of the engine, which is appreciated by enthusiastic drivers.

As already mentioned, it has been required in Hungary from 1 Jan 2009 that normal petrol contains at least 4.8% bio-ethanol. To be more precise if petrol without such ethanol content is sold, it will be liable for a higher rate of tax.

In the case of biodiesel the excise rules have changed since 1 January 2009, It introduced a similar fiscal position as in the case of bio-ethanol. According to the basic rule the tax was HUF 85 for diesel with a minimum biodiesel content of 4.8% while the tax was HUF 89.3 per litre in case of those with a smaller bio content.

Nonetheless there is a significant difference in that the excise rules do not provide tax exemption for diesel with a higher than 4,8 % bio content. From another perspective gas oil (diesel petrol) with more than 40% biodiesel content is subject to the same excise duty as diesel with only 4.8% biodiesel even if it is proven that the burning of biodiesel produces far less harmful emissions (CO2, SO2) than that of standard diesel. This does not seem to make any sense at first sight, however, from the fiscal point of view it is easy to understand that full tax exemption for bio-diesel would considerably cut the state's tax revenues.

The demand for E85 and unleaded petrol

Regarding the demand for E85 we can see a very close correlation between the price of E85 and that of ESZ95 petrol. The chart below shows the correlation between the price and quantity regarding petrol E85 and ESZ95 in the case of the first E85 petrol station in Budapest.



It is assessed that if there is an appr. HUF70-80 price gap between the retail selling price of E85 and ESZ95, the demand for E85 is almost doubled.

Results of the survey with questionnaire

Financial incentives regarding the support of biofules

During the survey I focussed on seven financial incentives, which had to be prioritized on a 1-5 scale. I think it is interesting that the financial grant of investment was scaled at 2,3, which means that the interviewees do not think that this factor is significant to support the usage of biofuels. Similarly the agriculture aid was not classified with a very higher rate either (3,0). This was followed (according to set of priorities) by the preferential registration tax, then the parking allowance and road fee, finally the excise duty allowance (4,8) and the preferential VAT (4,4) rate were the the most important incentives.

	Avarege rate
Excise allowance	4,8
Preferential VAT rate	4,4
Registration tax allowance	3,4
Parking fee allowance	3,2
Highway fee allowance	3,1
Agriculture aid	3,0
State grant of investment	2,3

Source: Own research, 2010 (measuring level: nominal scale)

The aspects of establishment of the biofuels plant

The following question of the questionnaire beamed a light on the factors which play a role before establishing a biofuel plant. The result is very interting as the aspect of 'Is there other plant in the region?' was given a small rate. But the possibilities of sale, the purchase of raw material and the predictable legal background was given the highest rate. This means that if the legal framework supports the usage of biofuels then more plant will be established, which will have a positive impact on the labour market and through the technical innovation it is positive from the macroeconomic point of view as well.

Possibilities of sale of biofules	34%
The purchase of raw material for	
producing biofules	17%
Predictable legal beckground	13%
Sales possibility of the by-product	11%
Production facilities of raw material int	
he region	10%
Is there any other plant int he region	8%
Supply chain possibilities int he region	7%
TOTAL	100%

Source: Own research, 2010 (measuring level: ratio scale)

The dominance of financial incentives

Regarding the question on purely financial incentives the following rates were given. The excise allowance and the preferential VAT rate are far prioritized. It can be seen. It is obvious that the interviewees are fully aware that around 60-70% of the retail price is the tax burden in case of fuels, so with a small tax decrease a significant price drop can be reached.

Excise allowance	5
Preferential VAT rate	4
Parking fee allowance	3
Registration tax allowance	3
Highway fee allowance	2
Source: Own research, 2010 (measuring level:	nominal scale)

The possibilities of the enhancement of the plant

During the survey of this topic I received a suprising result because it was an unambigouos unwillingness to enhance. I think the reason for this opinion is that the current regulatory backgroung is not supportive enough for enhancing production facilities

The demand for the product

Regarding this question I determined three alternatives, namely that since starting the pruduction the demand for biofules increased, stagnated or decreased. The result was what I expected as somewhere it inreased, elsewhere it decreased, as the global price of oil influence the demand for biofules and besdide that crossborder fuel tourism is also a driver regarding the demand.

The increase of the bio component without the reconstruction of the engine

I thought to examine this question because however there were researches regarding it, but it reflects a kind of responsibility from the car manufacturers point that up to what extent the mixing ratio can be increased in case of classical engines. Furthermore it is also important that

how the regulations can be changed to set a requirement for an obliogatory mixing ratio. (as mentioned before in Hungary the obligatory mixing ratio is 4,8%). To this question the most answers fell into the 15-20% and 20-25% intervals.

5-10%	
10-15%	
15-20%	Х
20-25%	Х
25-30%	
30-35%	
35-40%	
40-45%	
45-50%	
Source: Own research 2010 (massuring lave	1. rotio coolo)

Source: Own research, 2010 (measuring level: ratio scale)

The adequateness of the regulatory background

The aim of this question was that to focus on that whether the current regulatory background is efficient enough or not to support the usage of biofules. The answers received were unanomous that the regulatory background is not effeicient. This also justifies that however steps were taken but the break through did not happen therefore a comprehensive review is needed.

4. NEW AND RECENT SCIENTIFIC RESULTS

- E.1. Based on my initial assumptions laid down at he the beginning of this section I have prooved that the application of alternative energy resouces is becoming more and more urgent and important not only in Hungary but all over the world as well. The reasons behind this are the limited crude oil extraction capacities available which are already resulting in high oil prices in the world market. On the other hand the price fluctuations of the crude oil in world market constantly influance the prices of the products manufactured and the services provided.
- E.2. My assumption has prooved to be correct the we need a medium to long term bio fuel strategy, which would provide a secured and reliable future vision for the agricultural produces on one hand and for the the car and bio-fuel manufacturers on the other.
- E.3. I have prooved that it is not enough for us to achieve the EU set alternative energy levels just to pick and to modify one or an other piece of financial legislation but the entire regulatory issue must be dealt with as a complex including all the economic, social, environment protectional and agricultural implications.
- E.4. My assumption prove true that the current financial initiatives relating to bio-fuels must be expanded.
- E.5. I have found that in case of bio diesel fuel similar to the E85 fuel the bio-component must be granted a full excise duty exemption in order to increase its share and its consumption.

5. CONCLUSIONS AND RECOMMENDATIONS

Therefore, there is a need for such a complex investigation and regulatory environment which would not allow the different and partial fiscal, agricultural or environmental views to rule the full picture. A medium to long term bio-fuel strategy which would give the different actors agricultural producers on one hand, car and bio fuel manufaftureres on the other a clear and unambiguous future in this field is indispensible to achieve this goal.

I believe that in the field of bio fuels the parties concerned feel an air of uncertainty as both the political disputes, including the interdepartmental discussions in Hungary as well as the situation created within the EU itself remit the same message.

I support that on one hand a new consensual strategy involving all the regulatory departments could not be postponed any longer and on the other hand the these possibilities concerning the bio-fuels can easily be inserted into the fiscal, environmental and agricultural plans and through this it can restrenghten the structural reforms and the economic targets.

In order to achive a new comprehensive and systematic approach we have to set the scope and content of the state interactions, the country's ability to carry this burden, the budgetary, economic and social effects otherwise we cannot create an up-to-date regulatory environment.

To match this new regulatory environment we have to set the budgetary resources as current "lawn mover" budget cut approach and rule of the thumb budgets will mett aonly short term inmediate targets.

In my opinion in the set up of the new regulatory system the tax laws (including the excise tax, vehicle tax, car registration tax and even the VAT law) most play a decisive role as the fiscal policy is one of the main tools of the economic policy is an important influancing factor in broadening the application of bio-fuels.

I have to mention here in addition to the fact that the alcohol content of the E85 bio-ethanol fuel is excise duty exempt we have to create allowances in other tax laws as well which would in turn increase the use and application of bio-fuels.

For example I would suggest the decrease of the regiatration tax on bio-fuel vehicles to that level which is currently set by the rules in case of hybred vehicles.

Simultenously I would suggest changing the vehicle tax act in orde to take into account the hazardeous gas emission of the vehicles

I strongly believe that that tax system is not efficient which is only interested in the increase of the tax income as in this case the tax payers will not feel the urge to buy less polluting vehicles as they feel only the punitive effect of the tax burden.

In Budapest where on more than 183 out of the 365 days of the year the level of air pollution exceeds the dangerous to health level we have to introduce as soon as possible the new bio-fuel run busses and we have to replace the current ones operating by diesel fuel.

In addition to the above we have to work out not only in the capital but in the countryside towns as well such a parking system which offers an allowance to the owners bio-fuel run vehicles.

Further on such owners should be able to use their vehicles on all days of the year with no limitation, including the smog rules for driving even or uneven registration number cars on even and or uneven days.

Currently it is mandatory to add 4,8% bio-component to the petrols and diesel fuels on sale in Hungary otherwise the manufacturers risk the payment of a much higher excise tax .

It is public knowledge that the oil companies are not interested in the increase of the bio-fule share in their sales as it will trigger an extra cost to them.

It si not a coincidence that at some Hungarian oil companies filling station no E85 is available only at a so called "white filling stations".

Similutaneously by a regulatory set level the current share can be increased up to 15% and in this way manufactured bio-fule can used by other conventional vehicles as well without any engine modification requirement.

By setting a higher bio-component threshold on the one hand we could more efficiently fight disadvantegous oil price fluctuations on the world market and we could further decrease our CO2 emission.

As far as the VAT rate applicable to the bio-fuels is concerned I envisage two ways for the future.

On the one hand we could re-class the high bio content (eg E85 or later if we would introduce E70 then that as well) fules onto the 18% preferential rate category, or alternatively Hungary should initiate the fomer fules to be re-classed under a separate preferential rate at the EU (source: VAT Directive, Annex H)

CURRICULUM VITAE

Personal data:

Birth date and place: 14 04 1976, Miskolc Address: 8200 Veszprém, Pápai út 49. E-mail: palyizoltan@t-online.hu Phone: 06-20-827-8399

Education	Qualification	Date
College of Commerce, Catering and Tourism, Budapest (Faculty of commerce and customs)	economist (BA)	1995-1998
University of Economics, Pécs (Faculty of finance)	economist (MSc)	1999-2001
Szent István University, Gödöllő	PhD Student	2002-2011
Work experience	Title	

Ministry of Finance	Advisor	1998 Oct-2002 Oct.
Department of Customs and Excise, Excise Unit		

Responsibilities and duties:

In the Department of Customs and Excise the following tasks belong to my duties:

- Execution of tasks relating to the EU law harmonisation and other international issues of excise duty, including the interpretation of EU regulations;
- Planning and co-ordination of amendments in the Act on Excise Duty and its implementing regulations, participation in the codification work of line ministries,
- Representation of governmental interests and approach determined by the relevant legal background in the committees of Parliament, including Budgetary, Agricultural, Environmental and Economic Committees;

• Contacting and co-operation with the relevant governmental bodies (National Customs and Finance Guard, Tax and Financial Audit Office, Office of Prime Minister, Ministry of Foreign Affairs) and with professional associations and key operators of the market;

Professional award:

October 2000, Certificate of Merit for excellent professional activity by the Minister of Finance

Work experience	Title	

Philip Morris Hungary Ltd	Regulatory Affairs Manager	2002 October- 2005
September		

Responsibilities and duties:

- Following the changes of the regulatory background concerning the activity of the company and informing the management about changes (especially in the field of taxation and customs):
- Interpretation of the taxation and customs rules and cooperation with other departments about changes of regulatory background regarding to them;
- Contacting and co-operation with the relevant governmental bodies (National Customs) and Finance Guard, Tax and Financial Audit Office, Office of Prime Minister).

Professional award:

May 2004, Recognition of Excellence Award from the President of the Central European Region

Work experience

T-Mobile Magyarország Rt

Tax Manager

Title

(After the merge Magyar Telekom Nyrt.

2005. okt.1.-2006. nov 15.

Mobile Service Line of Busniess)

Responsibilities and duties:

• Leading of the daily work of the tax team regarding all tax types (tax returns, selfrevisions, payments, G/L entries, reconciliations, monthly closing, tax planning)

- Coordination of tax audits, preparing comments on protocols, and appealing to resolutions
- Interpretation of taxation provisions, informing co-departments on new tax rules
- Liaison with Tax and Customs authorities and other Governmental Organizations (e.g. Ministry of Finance)

work experience frue	Work experience	Title
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Tesco-Global Zrt

Tax and Treasury Manager

2006. nov 15-

Responsibilities and duties:

- Leading of the daily work of the tax team regarding all tax types (tax returns, self-revisions, payments, G/L entries, reconciliations, monthly closing, tax planning, tax optimalization)
- Leading the taxation duties of Tesco affiliates and Swiss Branch Office
- Coordination of tax audits, preparing comments on protocols, and appealing
- Liaison with Tax and Customs authorities and other Governmental Organizations (e.g. Ministry of Finance)
- Participation in due dilligence regarding acquistions
- Leading the treasury group, making hedge deals, examining leasing options, approving bank payments
- Preparing cash flow forecast for Headquarter on a weekly basis

Professional award:

May 2010, Recognition of Award from the CEO of Tesco Plc

Language:

- English (advanced level professional exam)
- German (intermediate level professional exam)
- Italian (intermediate level oral exam)

IT skills:

European Computer Driving Licence (ECDL)

Daily use of Word, Excel, Powerpoint, Outlook, ERP

Other qualifications:

- Customs agent
- Tax adviser
- Tax expert
- Chartered accountant
- IFRS course and exam (Ernst and Young Academy of Business)
- ACCA course (Ernst and Young Academy of Business)
- Public Administration Professional Exam
- Participation in the Management Programme of the Corvinus University
- Tax administration and tax policy courses in English
 - o May 2001, Spanish Institution of Financial Studies
 - o January 2002, International Monetary Fund

Budapest, January 2011

7. PUBLICATIONS

I. <u>Scientific booklet</u>

Published in Hungarian:

 Dr. Herich György szerkesztette – Nemzetközi Adózás, Adózás az Európai Unióban, Pályi Zoltán: A közösségi és a magyar adóharmonizáció: Jövedéki adó, Penta Unió, 2002. II/8. 372-395 p., ISBN 963 204 705 2

Published in foreign language:

1. Szent István University, Faculty of Economics and Social Sciences, Management and Business Administration PhD School: Economics of sustainable agriculture, **Pályi Zoltán:** Competitive production of biofuels and the efficient agriculture (being published), scientific book series (2011), ISBN 978-963-269-145-9

II. <u>Scientific articles published in Hungarian</u>

- 1 **Pályi Zoltán:** A bioüzemanyagok adózása Magyarországon, Gazdálkodás, 2011. 2 szám, ISSN 0046-5518
- 2 **Pályi Zoltán:** A bioüzemanyagok adó-szabályozása, Magyar Mezőgazdaság, 41. szám, 2010. október 13. 34-35 oldal, ISSN 0025-018X

Scientific articles published in foreign language

1. **Zoltán Pályi:** Financial support of biofuels in Hungary, Industry Europe review 2010, 24/4 szám, 24-25 oldal azonosítószám: 2861788

III. <u>Scientific conferences published in foreign language</u>

1. **Zoltán Pályi:** The EU accession from excise point of view and the regulation of the application of biofuels. Az Európai Integráció a csatlakozás kihívásai I. Regionális Ph.D. Konferencia, Siófok 2002. december 14. ISBN 963 86320 1 1.

2. **Zoltán Pályi:** Financial and Regulatory Background of Renewable Energy Sources. 4th International Conference of PhD Students, Miskolc, 11-17 August, 2003.

IV. Book, booklet published in Hungarian

- 1. **Pályi Zoltán:** Adótörvények 2000-re, Mit kell tudni a jövedéki adótörvény változásáról, HVG Adókülönszám 1999. november, ISSN 0139-1682
- 2. **Pályi Zoltán**: Adótörvények 2001-re és 2002-re, A jövedéki adótörvény változásai 47-54p., HVG Adókülönszám, 2000. november, ISSN 0139-1682

V. <u>Other publications</u>

- 1. **Pályi Zoltán**: Várható változások az Európai Unió jövedéki szabályozásában. Világgazdaság, 2000. február 16-i szám, ISSN 0042-6148
- 2. **Pályi Zoltán**: Változott a jövedéki szabályozás 23p. Magyar Mezőgazdaság 57. évfolyam. 2002. szeptember 18. ISSN 0025-018X
- Borszéki Éva Komáromi Kálmán Pályi Zoltán Megújuló energiára vonatkozó beruházások elemzése, energiahatékonyság kérdései jegyzet, SZIE-ROP3.3.1.-05/1-2005-06-0010/35 sz. intézkedése Együttműködés a hallgatók tapasztalatszerzése, gyakorlati ismereteik bővülése, elhelyezkedési lehetőségeik javítása érdekében c. projekt 2008. 138 oldal
- 4. **Pályi Zoltán**: Az Európai Unió jövedéki adórendszere és a harmonizáció 9-11p. Magyar Dohányújság, 2000. márciusi szám, 108. évfolyam, kiadja a DOKUT Rt.
- Pályi Zoltán: A bor jövedéki szabályozásának változásai 53p. Bor és Piac Szakmai Magazin, 2002. Szeptember–október. Kiadja a Geomédia Kiadói Rt. ISSN 1216-528X
- 6. **Pályi Zoltán**: A jövedéki adótörvény változásai. Házi jogtanácsadó, 2000. januári szám, ISSN 0209-5971
- 7. **Pályi Zoltán**: A jövedéki adótörvény módosításai 11-13p. Házi jogtanácsadó, 2002. januári szám ISSN 0209-5971
- 8. **Pályi Zoltán**: A jövedéki adótörvény módosításai. Házi jogtanácsadó, 2002. októberi szám, ISSN 0209-5971
- 9. **Pályi Zoltán**: A cigaretta fiskális jelölései az Európai Unióban, 6-8p., Jövedéki Közlemények (Jövedéki szakmai folyóirat), 2004. októberi szám.
- 10. **Pályi Zoltán**: Dohánytermékek adó- és árstruktúrája az Európai Unióban, Jövedéki Közlemények (Jövedéki szakmai folyóirat), 2005. évf. 2. szám

VI. <u>Presentation on abroad:</u>

- 1. 2001 május 21 június 1, Madrid, Spanyol Pénzügyi Tanulmányok Intézete, Adóigazgatási rendszerek Európában, <u>előadás</u>: The Hungarian Tax Administration
- 2. 2002 január 28 február 8, Bécs, Nemzetközi Valutaalap által szervezett Adópolitikai és Adóigazgatási tanfolyam, <u>előadás:</u> Hungarian Tax Policy and Tax Administration

VII. Other publication activity

1. Jövedéki Közlemények szakmai folyóirat szerkesztőbizottsági tag, kiadja: VPOP