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ACTA VŠFS

Economic Studies and Analyses
Ekonomické studie a analýzy

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VOJTĚCH KREBS

Dear readers,

We present you another issue of the reviewed scientific magazine of the University of Finance and Administration (VSFS). This first private economically oriented university in the Czech Republic has been intensively developing research not only in the areas of relevant specialisations within the educational activity of the institution, but also in the areas that are contemporary and necessary in terms of economic policy.

Establishment of the Centre of economic studies and analysis in 2007 and appearance of the first issue of the specialized magazine ACTA, which publishes economic studies and analyses performed not only by employees of VSFS, but also by professionals from other domestic as well as foreign pedagogical and research work places, was an expression of support of the research.

We are happy that the magazine ACTA VSFS received a positive feedback from the specialist public so very soon, it has been included in the list of reviewed periodicals published in the Czech Republic, and we believe that it will maintain its high quality.

The issue of ACTA VSFS no. 1/2011 brings four significant contributions on current topics. In his article "Long-term sustainability of pension systems in the light of taking into account actual incomes in the amount of pension", Martin Holub presents interesting opinions for discussion about the relationship between solidarity and equivalence in pension insurance. Helena Vychová pointed out in her essay called "Economic tools for stimulation in the market of other education of the adults" elemental problems of other education of the adults. Contribution of Karel Brychta "Evaluation of conformity of the Czech tax law with the law of the European Union with concentration on taxing of non-residents" reacts on the necessity to further harmonise the Czech law with the European Union law. The topic of "Information security in small and medium businesses", with which deals the article written by David Král, is definitely not of a lesser importance.

I am convinced that you will find this issue of ACTA VSFS interesting again and that our magazine will continue to have your favour.

Vážení čtenáři,

předkládáme vám další číslo recenzovaného vědeckého časopisu Vysoké školy finanční a správní. Tato první soukromá univerzita s ekonomickým zaměřením v České republice rozvíjí intenzivně výzkum nejen v oblastech relevantních zaměření vzdělávací činnosti školy, ale i v oblastech aktuálních a potřebných z hlediska hospodářské politiky.

Výrazem podpory výzkumu bylo v roce 2007 založení Centra pro ekonomické studie a analýzy a vydání prvního čísla odborného časopisu ACTA, který publikuje ekonomické studie a analýzy jak pracovníků VŠFS, tak odborníků z jiných domácích i zahraničních pedagogických a výzkumných pracovišť.

Jsme rádi, že si časopis ACTA VŠFS získal velmi brzy pozitivní ohlas u odborné veřejnosti, byl zařazen na seznam recenzovaných periodik vydávaných v České republice a věříme, že si vysokou úroveň udrží.

Časopis ACTA VŠFS č. 1/2011 přináší čtyři významné aktuální příspěvky. Martin Holub ve svém článku „Dlouhodobá udržitelnost důchodových systémů ve světle zohlednění skutečně získaných příjmů ve výši důchodu“ přináší zajímavé názory do diskuze o vztahu solidarity a ekvivalence v důchodovém pojištění. Helena Vychová ve stati „Ekonomické nástroje poptávkové stimulace na trhu dalšího vzdělávání dospělých“ poukázala na základní problémy dalšího vzdělávání dospělých. Příspěvek Karla Brychty „Hodnocení souladnosti českého daňového práva s právem Evropské unie se zaměřením na zdaňování nerezidentů“ reaguje na nezbytnost dalšího sladování českého práva s právem Evropské unie. Neméně významné je i téma „Bezpečnost informací v malých a středních firmách“, kterým se ve svém příspěvku zabývá David Král.

Jsem přesvědčen, že vás i toto číslo ACTA VŠFS zaujme a nadále zachováte našemu časopisu přízeň.



prof. Ing. Vojtěch Krebs, CSc.

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The Sustainability of Pension Systems through the Assessment of the Pension Base Calculation

Dlouhodobá udržitelnost důchodových systémů ve světle zohlednění skutečně získaných příjmů ve výši důchodu

MARTIN HOLUB

Abstract

The objective of the paper is to present the possibility of the assessment reference earnings (calculation basis) which are taken into account by the calculation pension. In this paper is present the way of the assessment and treating with reference incomes in earnings-related pension schemes. The author subsequently put forward various proposals for the adjustment of the Czech public pension scheme. The paper focuses principally on the method of assessment of the reference period, length of the reference period, method of income indexation pre-retirement incomes falling into the reference period. The paper also provides model calculations of the pension amount based on the variable assessment reference period and the variable method of income indexation. The author also presents microeconomics and macroeconomics impacts of variable combinations of assessment reference period and method of income indexation.

Keywords

pension schemes, assessment of reference period, indexation of income, pension insurance

Abstrakt

Příspěvek přináší přehled o tom, z jakého rozhodného období lze v důchodových systémech zjišťovat příjmy pro výpočet důchodu a jakým způsobem může být zohledněna výše těchto příjmů při výpočtu důchodu. Příspěvek se zabývá možnými změnami právní úpravy v českém základním důchodovém pojištění. Příspěvek se zaměřil na získání poznatků zejména o následujících oblastech: způsob stanovení rozhodného období, délka rozhodného období a způsob valorizace příjmů, spadajících do rozhodného období. V příspěvku je na modelových příkladech počítána výše důchodu při různě stanoveném rozhodném období a při různě zvolené metodě valorizace předdůchodových příjmů. Jsou spočítány mikroekonomické a makroekonomické dopady různých kombinací stanovení rozhodného období a způsobu valorizace předdůchodových příjmů.

Klíčová slova

důchodové systémy, stanovení rozhodného období, valorizace příjmů, důchodové pojištění

Introduction

All developed countries face the process of demographic ageing. The pension schemes of these countries therefore generally face serious problems caused by adverse demographic trends, high unemployment, insufficient economic growth, the large range and cost of social programmes and, finally, increasing administrative costs (Musil, 1996). The total cost of pensions paid in the majority of Western European countries already exceeds 10% of GDP and makes up more than 25% of total public spending (Rutarová, Slavík, 2005). Social security systems are facing huge deficits due to a lack of funds to cover the increasing statutory requirements of pensioners and the other social groups concerned. In short, the cost of social security is rising. In order to guarantee the financial sustainability of their pension systems the majority of European countries have launched reforms in recent years. Such reforms have generally concentrated on strengthening the link between pension contributions and benefits. Certain countries have introduced DC schemes (either funded or notional account components) into their pension systems in which one of the characteristics is a close link between contributions paid and pension benefit received. Other countries have retained a defined contribution pension system, but even in these countries the above link has been strengthened in a large number of cases. This has been achieved through parametric reforms which have introduced the extension of the period of insurance required to qualify for a full pension, the tightening up of actuarial bonuses / reductions in case of deferred / early retirement as well as through the introduction of the calculation of pension benefits from lifetime income rather than income recorded during the years immediately preceding retirement. Thus, when assessing the level of pension benefit, the amount of contributions to the system during the insured's entire working life is accurately reflected.

As far as the Czech Republic is concerned, under current legislation pension entitlement¹ depends on the income of the insured since 1986. The reference period is automatically prolonged each year to up to 30 years; this will be achieved in 2016. Nevertheless, the target length of the reference period will not cover the significant part of a worker's productive life. This may adversely affect the pension rights of certain groups of workers who enjoyed relatively high income during the first part of their careers and relatively low income as they approached the end of their working lives. This may well cause problems with regard to the impact of a reduction in working time during the final years before reaching retirement and may have a disproportionate affect on future pension benefits especially for low-income groups (Šlapák, 2007).

Adjustments to the length of the reference period or income counted within the reference period, including the valorisation of income credited, might be considered an additional tool for making parametric modifications to the pay-as-you-go system currently in operation in the Czech Republic. A definition of the income taken into account and ways of valorization of such income make up important tools for determining the expenditure

1 *The pension in the Czech Republic consists of two components, a basic amount (flat rate) which is the same for all types of pensions and a percentage-based assessment based on the insured period and earnings achieved. The calculation basis results from the reduced personal assessment base which is equal to the average annual monthly base for the reference period.*

side of the pension system as a result of their relationship to the calculation of benefit assessment calculation. The basic aim of this paper is to contribute towards the debate on the reform of the Czech pension system, in particular the possible parametric adjustment of the current system. The paper focuses on an analysis of the reference period and the potential impact of its adjustment on the pension system, on individual pension entitlements as well as its overall long-term financial sustainability.

1 Possible changes in determining the reference period from which the pension is determined

In principle, two potential major adjustments can be made when determining the reference period – a change in the length of the reference period and a change to the method employed for the valorisation of income within the reference period or a combination of the two. A change in the length of the reference period might be based on existing models used to determine the reference period in various European countries. As a result of a comparison of the current, historical and potential (planned pension system reforms) variants discovered as a result of this analysis the author arrived at the following options for change. The first basic option is to determine the reference period by means of years of affiliation accompanied by an individual's maximum income years (his/her "best" years). These years can either be measured separately over the insured's entire working life or as a set of consecutive years. The second basic option for determining the reference period from which an individual's pension rights are then calculated is to take into account a number of years of contribution immediately leading up to retirement.

This chapter is divided into two main parts; the first is devoted to an analysis of various reference period set lengths in the Czech Republic and the second concerns the methods to be employed with regard to determining income valorisation subject to the reference period.

2 Adjustment of the length of the reference period - methods and data

In considering potential changes to the reference period in the Czech Republic the author considered for the purposes of this paper model cases of best earnings for 5-, 15-, 20-, 25-, 30- and 35-year periods. The selection of these periods was due to two main reasons – the data structure² of an individual's lifetime income and the frequent use of these figures in existing pension schemes. The author's model considers one option, where the reference period is any 5 best years. In the pension schemes compared, however, the reference period is quite often a consecutive number of best years³. It was decided not to include this method for determining the reference period principally because of the inadequacy of the relevant data. With regard to a reference period dependent upon the years running up to retirement, the author decided to include the last 5-, 22-, 30-, 35-, 40-, 42- and 44-year periods. A reference period of the final 22 years is intended to serve as a basic (zero) op-

² Closer to the data file, see below.

³ This method of determining the reference period with a sufficiently high number of years taken into consideration approximates to the variant reflecting incomes in recent years as an equally long period.

tion reflecting, with respect to 2008, income earned since 1986. The final 30-year variant is included because it is enshrined in law; the limit in this case will be reached in 2016. With regard to the significance of reference periods of 35, 40, 42 and 44 years it is important to note that the final 40-year option coincides with the typical lifetime income for women⁴. The 42-year option covers the typical lifetime income of men and women combined the 44-year option typically covers the lifetime income of men.

A further option for determining the reference period is a combination of the two methods outlined above i.e. to take into account lifetime income excluding a certain number (usually determined as a percentage) of the revenue-weakest years. The author has included variants of lifetime income which exclude the revenue-worst four years for men and the five worst earnings years for women.

3 Lifetime income data file

An individual's lifetime earnings records were required for the purposes of making model data calculations. However, since such data does not exist⁵, the author decided to use data from the Information System on Average Earnings (ISPV) operated by the Ministry of Labour and Social Affairs⁶. Data from this system provides an overview of the earnings of men and women in both the private and public sectors in a given year. While the author is aware of the difficulties involved with using such data, it seems the most appropriate for use in the model. Further, the author used a simplification in the design of the model i.e. by considering the distribution of income in a given year between various age groups to represent the distribution of the lifetime income of the average individual. Consequently, the author was able to examine the impact of changes in the length of the reference period of an individual pension.

The author constructed tables which simulated an individual's lifetime income using average income obtained from the ISPV survey data. Income was distributed separately for the private and public sectors and according to gender. Income was obtained according to the five-year age groups, starting with 0-19 and ended with 60-64 age group.

Since income was determined from one specific year thereby reflecting current value, valorisation was not necessary. Along with income details income summary charts were then compiled which were subsequently used to model different types of reference period. Based on such data the individual calculation basis was determined for each type of individual and the amount of pension calculated (according to the rules for the granting of a pension in 2008). The average duration of insurance was set at 44 years for men, 40 years for women and 42 years for men and women combined. Non-contributory periods were taken into account to the extent identified in: "Analysis of non-contributory

4 Lifetime income was determined based on the average period of insurance, which in 2004 in the CR was 44.4 for men, 39.8 years for women and 42.1 years on average.

5 Even if there were, it would be inappropriate for the calculation in the model due to social changes which have taken place since 1989.

6 Output sub-analysis of wage surveys, published by the CSO, based on ISPV sample surveys e.g. Structure of Earnings Survey 2004, CSO, Prague.

periods in the CR and recommendations for monitoring and registration” (Holub, 2004). The range of each was adjusted to the length of each relevant reference period. Non-contributory periods were included of 3 246 days for men, 3 016 days for women and 3 144 days for both sexes combined. Earnings thresholds for 2008 (the first of 10 000 CZK and the second of 24 800 CZK) were used in determining the calculation basis.

4 Changes in the length of the reference period – results

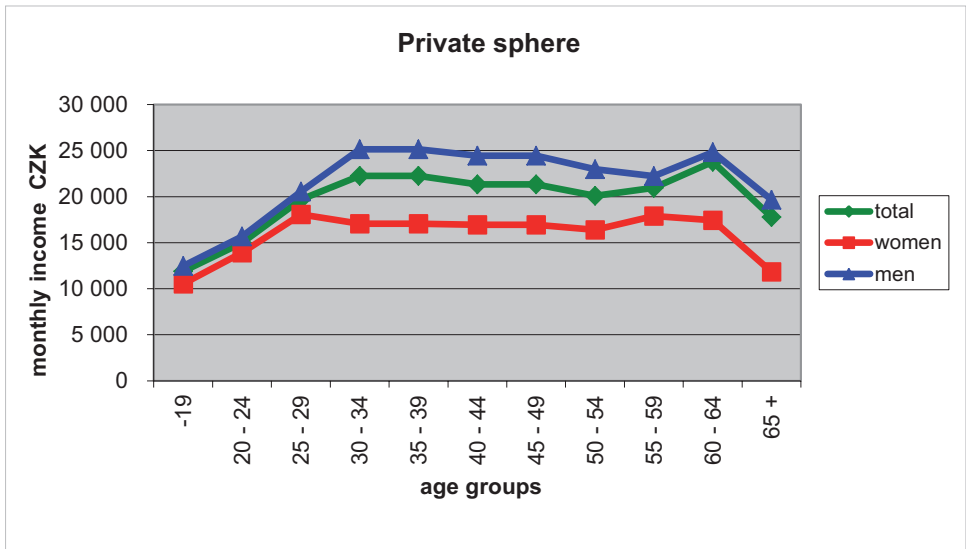
Table 1: Distribution of income by economic sector, gender and age group (2004)

private sector											
age groups											
	- 19 years	20 - 24 years	25 - 29 years	30 - 34 years	35 - 39 years	40 - 44 years	45 - 49 years	50 - 54 years	55 - 59 years	60 - 64 years	65 + years
total	11 900	14 983	19 702	22 247	22 247	21 333	21 333	20 087	20 949	23 779	17 793
women	10 545	13 912	18 070	17 052	17 052	16 959	16 959	16 390	17 888	17 426	11 835
men	12 464	15 684	20 545	25 135	25 135	24 447	24 447	22 970	22 221	24 835	19 653
public sector											
age groups											
	- 19 years	20 - 24 years	25 - 29 years	30 - 34 years	35 - 39 years	40 - 44 years	45 - 49 years	50 - 54 years	55 - 59 years	60 - 64 years	65 + years
total	10 427	15 292	18 306	19 373	19 373	20 028	20 028	20 431	21 402	23 300	19 294
women	10 760	14 796	17 126	17 080	17 080	18 448	18 448	18 767	20 066	20 796	15 979
men	9 771	16 240	19 971	23 473	23 473	24 491	24 491	24 610	23 794	25 084	21 941
national economy											
age groups											
	- 19 years	20 - 24 years	25 - 29 years	30 - 34 years	35 - 39 years	40 - 44 years	45 - 49 years	50 - 54 years	55 - 59 years	60 - 64 years	65 + years
total	11 382	15 091	19 211	21 237	21 237	20 874	20 874	20 208	21 108	23 611	18 321
women	10 647	14 333	17 620	17 065	17 065	17 669	17 669	17 522	18 926	19 032	13 809
men	11 845	15 812	20 413	24 753	24 753	24 457	24 457	23 347	22 583	24 893	20 180

Source: Survey ISPV (2004), own calculations.

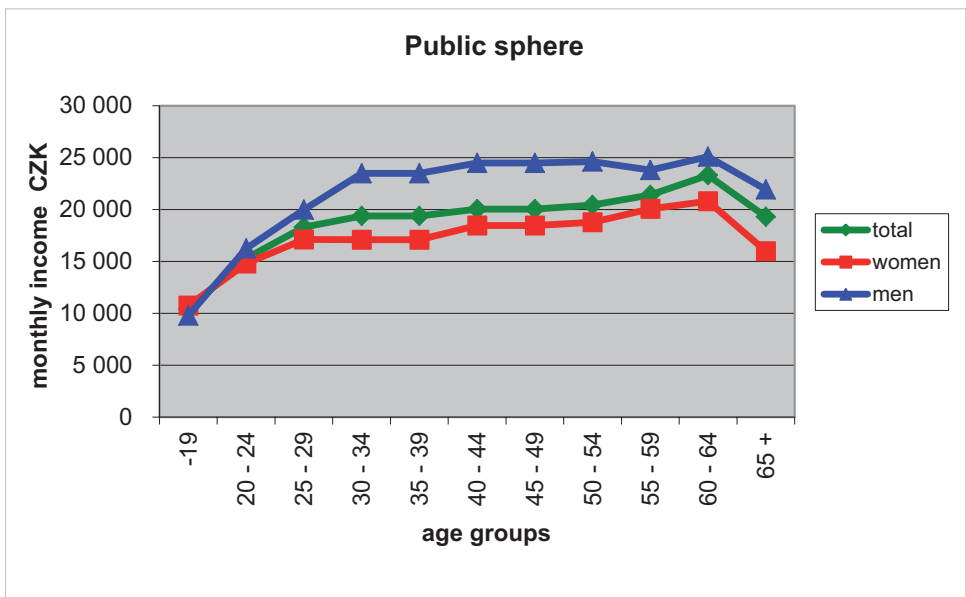
The above-mentioned tables compiled as part of the ISPV survey show the distribution of gross monthly income between the private and public sectors of the national economy by gender and age category in total. The most noticeable difference is that between the private and public sectors. Remuneration in the private sector is based on the labour productivity development of individuals whilst reward in the public sector is based on the principle of seniority (merit) - the more senior the position, the higher the salary. These two varying methods of remuneration, together with the relative representation of these two sectors within the national economy should be borne in mind when planning possible changes and in the interpretation of results. The following graphs illustrate the distribution of income in the national economy.

Graph 1: Gross earnings and numbers of people (structure) by gender, age category and total



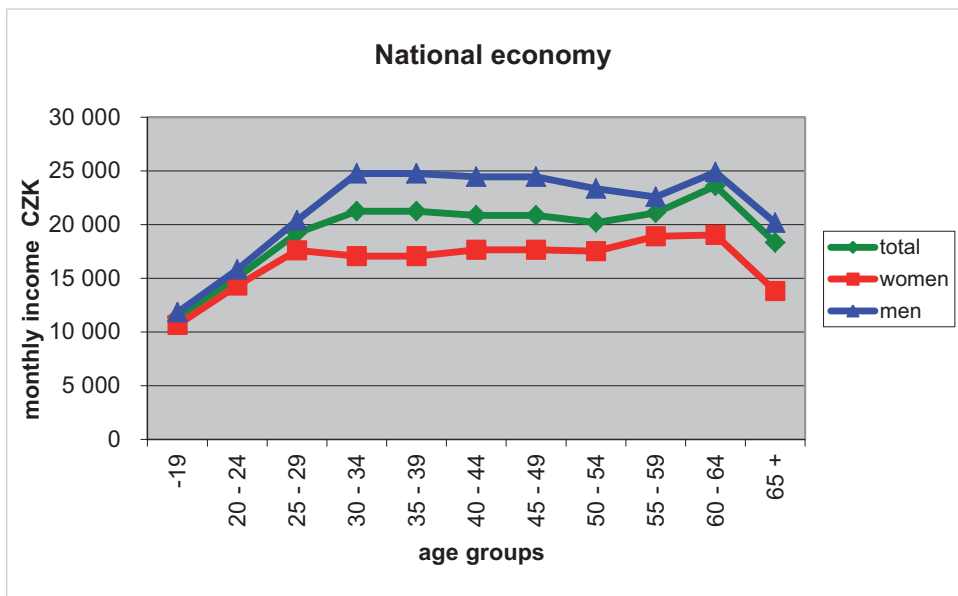
Source: Survey ISPV (2004), own calculations.

Graph 2: Gross earnings and numbers of people (structure) by gender, age category and total



Source: Survey ISPV (2004), own calculations.

Graph 3: Gross earnings and numbers of people (structure) by gender, age category and total



Source: Survey ISPV (2004), own calculations.

The results of the proposed options for changing the length of the reference period compared with the zero option i.e. 22 years, presented in the table below, show that a change in the reference period has a marginal influence on an individual's pension. This is due mainly to the earnings thresholds which are used in the recalculation of income earned in the reference period. Earnings thresholds were set at 10 000 CZK for the first earnings threshold and 24 800 CZK for the second. The income from a given period is fully included up to the first earnings threshold, income exceeding the first earnings threshold but not reaching the second earnings threshold is included from 30% and income exceeding the second earnings threshold is included only from 10%. Consequently one cannot expect significant changes in an individual's pension due to extension of the reference period. The extension of the reference period to lifetime earnings will influence most notably the pensions of women in the public sector with average earnings whose pension would decrease by 274 CZK (2.5%). The same extension of the period would cause a drop in income for men in the public sector of 215 CZK (1.9%). As in the public sector, extending the reference period to lifetime income would cause a drop in the pension of individuals working in the private sector. The decrease, however, would not be as noticeable as in the public sector. A decrease in men's pensions of 143 CZK (1.2%) would be higher than that of women at 128 CZK (1.2%). On the other extreme, the reference period model which takes into account the best 5 years of earnings would see the average men's pension increase by 122 CZK (1.1%) and that of women with an average income working in the private sector by 284 CZK (2.7%). With a reference period consisting of the 5 best years, the increase in the pension for men in the public sector would not be as significant as for men in the private sector; those in the public sector would see a rise of only 29 CZK (0.3%). Women's pensions would increase by 232 CZK (2.13%). Women working in the public sector

could expect to see the same increase in pension with a reference period consisting of the last 5 years of earnings; in this case the last 5 years corresponds with the best 5 years. The small increase in pension for men working in the public sector when considered with a reference period consisting of the best 5 years is closely tied to the development of income in this sector; income achieved from the age of 39 years (income is taken into account for the default/zero option from this age) proves to be almost constant i.e. without any significant development. If one considers the average earning individual, irrespective of gender and the national economic sector in which they operate, extending the reference period to include lifetime income would cause a fall in pension of 187 CZK (1.7%). Were the reference period to consist of the best 5 years, the pension would increase by 89 CZK (0.8%).

Very interesting results would ensue should the reference period be extended to 30 years as contained in the Pension Insurance Act. Such an extension would, for individuals on an average income, irrespective of gender and the sector of the national economy, mean a pension increase of 3 CZK (0.03%). Such an increase would be due mainly to the private sector which would increase the pension for women by 34 CZK (0.3%) and men by 32 CZK (0.3%). Conversely, women in the public sector would receive a pension reduced by 84 CZK (0.8%) and men by 19 CZK (0.2%). All the variants described above can be seen in the following table. Selected options can be observed in the graph below.

Table 2: Pension amount variants (in CZK) according to method of determining the reference period

calculation basis number of years	man private sector	woman private sector	man and woman private sector	man public sector	woman public sector	man and woman public sector	man and woman total
last 22	11 553	10 550	11 348	11 610	10 906	11 279	11 324
last 30	11 585	10 584	11 366	11 591	10 822	11 255	11 327
last 35	11 555	10 531	11 336	11 550	10 740	11 223	11 297
last 40	11 449	10 422	11 268	11 481	10 632	11 057	11 194
last 44 (42)*	11 410		11 235	11 395		10 955	11 199
last 5	11 477	10 564	11 321	11 586	11 138	11 357	11 334
best 15	11 659	10 692	11 418	11 629	11 009	11 300	11 377
best 20	11 649	10 661	11 405	11 616	10 939	11 287	11 364
best 25	11 623	10 640	11 389	11 601	10 870	11 270	11 348
best 30	11 593	10 612	11 366	11 591	10 823	11 255	11 327
best 35	11 555	10 531	11 336	11 550	10 740	11 223	11 297
best 5	11 675	10 834	11 443	11 639	11 138	11 357	11 413
lifetime career without worst	11 449	10 531		11 481	10 740		
**							

* last 44 equals lifetime earnings for men, 40 equals lifetime earnings for women, 42 together

** for men 4 worst-earnings years, for women 5 worst-earnings years

Source: own calculations based on ISPV survey (2004).

Table 3: Difference in pensions (in CZK) according to method of determining the reference period

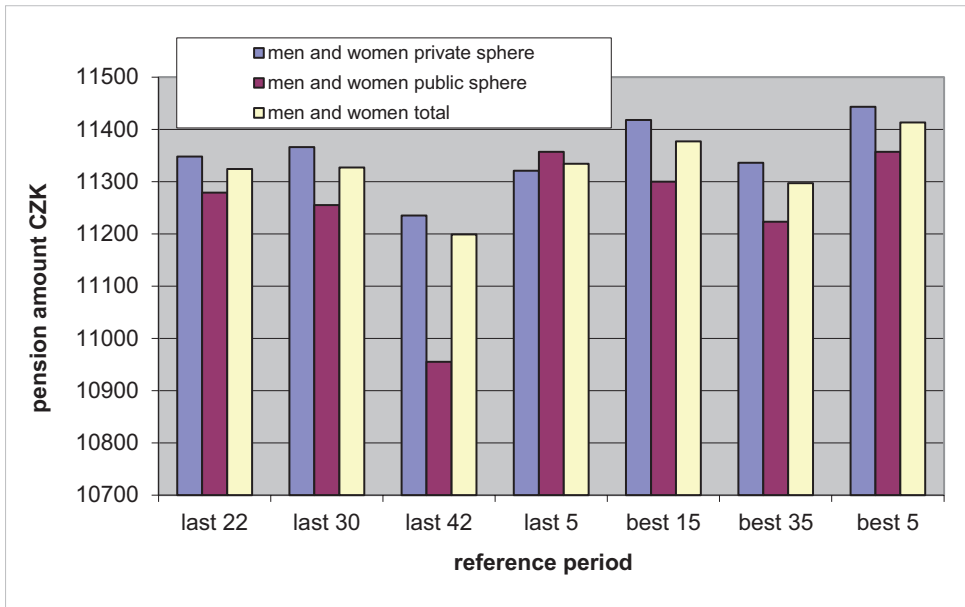
calculation basis number of years	man private sector	woman private sector	man and woman private sector	man public sector	woman public sector	man and woman public sector	man and woman total
last 22	0	0	0	0	0	0	0
last 30	32	34	18	-19	-84	-24	3
last 35	2	-19	-12	-60	-166	-56	-27
last 40	-104	-128	-80	-129	-274	-222	-130
last 44 (42)*	-143		-113	-215		-324	-187
last 5	-76	14	-27	-24	232	78	10
best 15	106	142	70	19	103	21	53
best 20	96	111	57	6	33	8	40
best 25	70	90	41	-9	-36	-9	24
best 30	40	62	18	-19	-83	-24	3
best 35	2	-19	-12	-60	-166	-56	-27
best 5	122	284	95	29	232	78	89
lifetime career without worst	-104	-19			-129	-166	
**							

* last 44 equals lifetime earnings for men, 40 equals lifetime earnings for women, 42 together

** for men 4 worst-earnings years, for women 5 worst-earnings years

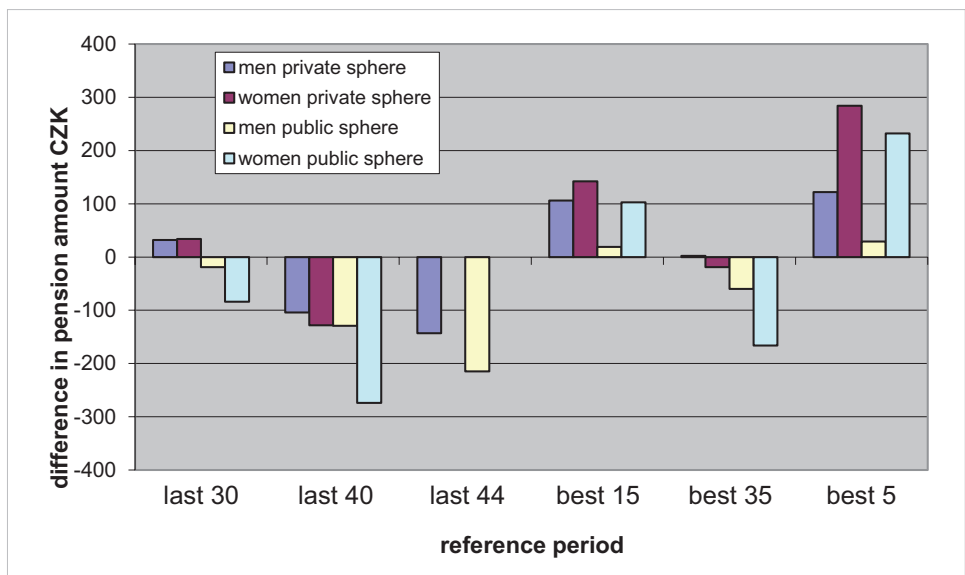
Source: own calculations based on ISPV survey (2004).

Graph 4: Amount of pension (in CZK) according to method of determining the reference period



Source: own calculations based on ISPV survey (2004).

Graph 5: Difference in pensions (in CZK) according to method of determining the reference period



Source: own calculations based on ISPV survey (2004).

In order to exclude the effect of the earnings thresholds applied in calculating the pension on the variation in the amount of the pension caused by changes in the length of the reference period it was necessary to make a further comparison. The author therefore compared the impact of changes in the length of the reference period on the personal calculation base of individuals with average incomes. As a result of this model comparison the following results were obtained: by extending the reference period to lifetime income the personal calculation base of individuals with average earnings, irrespective of gender and sector of the national economy, would see a decrease of 1 860 CZK (7.1%). Modification of the reference period to the best 5 years would lead to an increase in the personal calculation base of 1345 CZK (5.1%).

The most obvious difference in the personal calculation base can be seen in the case of a man working in the public sector. The extension of the reference period to lifetime income would decrease his personal calculation base by 3 246 CZK (10.6%). The same extension would decrease the personal calculation base of a woman in the public sector by 1 383 CZK (5.6%). As far as the private sector is concerned, by extending the reference period to lifetime income most men would come off worse; their personal calculation base would decrease by 2 161 CZK (7.3%). Extending the reference period to lifetime income would lead to a reduction in the women's personal calculation base of 652 CZK (3.1%). The option of a reference period consisting of the 5 best years would again be favourable for all those receiving an average wage. The greatest gain could be expected by women working in the private sector; their personal calculation base would increase by CZK 1432 (6.7%), followed by men in the private sector, whose personal calculation base would increase by 1858 CZK (6.3%). By determining the reference period as the best 5 years women in the public sector could expect an increase in their personal calculation base of 1173 CZK (5.1%) and men in the public sector of 457 CZK (1.5%). An overview of changes in the personal calculation base caused by changes in the length of the reference period can be found in the following tables and graphs.

Table 4: Individual calculation base variants (in CZK) according to method of determining the reference period (part 1)

calculation basis number of years	man private sector	woman private sector	man and woman private sector	man public sector	woman public sector	man and woman public sector	man and woman total
last 22	29 672	21 363	26 573	30 533	23 157	25 529	26 206
last 30	30 168	21 531	26 850	30 243	22 733	25 170	26 260
last 35	29 704	21 262	26 388	29 627	22 320	24 759	25 816
last 40	28 108	20 711	25 351	28 587	21 774	23 918	24 847
last 44 (42)*	27 511		24 857	27 287		23 404	24 346
last 5	28 530	21 432	26 160	30 171	24 330	26 703	26 351
best 15	31 274	22 079	27 628	30 821	23 678	25 848	27 002
best 20	31 123	21 920	27 436	30 622	23 326	25 647	26 807
best 25	30 735	21 814	27 181	30 402	22 975	25 387	26 551
best 30	30 289	21 672	26 850	30 243	22 737	25 170	26 260

Table 4: Individual calculation base variants (in CZK) according to method of determining the reference period (part 2)

calculation basis number of years	man private sector	woman private sector	man and woman private sector	man public sector	woman public sector	man and woman public sector	man and woman total
best 35	29 704	21 262	26 388	29 627	22 320	24 759	25 816
best 5	31 530	22 795	28 011	30 990	24 330	26 703	27 551
lifetime career without worst **	27 511	20 711		27 278	21 774		

* last 44 equals lifetime earnings for men, 40 equals lifetime earnings for women, 42 together

** for men 4 worst-earnings years, for women 5 worst-earnings years

Source: own calculations based on ISPV survey (2004).

Table 5: Individual calculation base differences (in CZK) according to method of determining the reference period

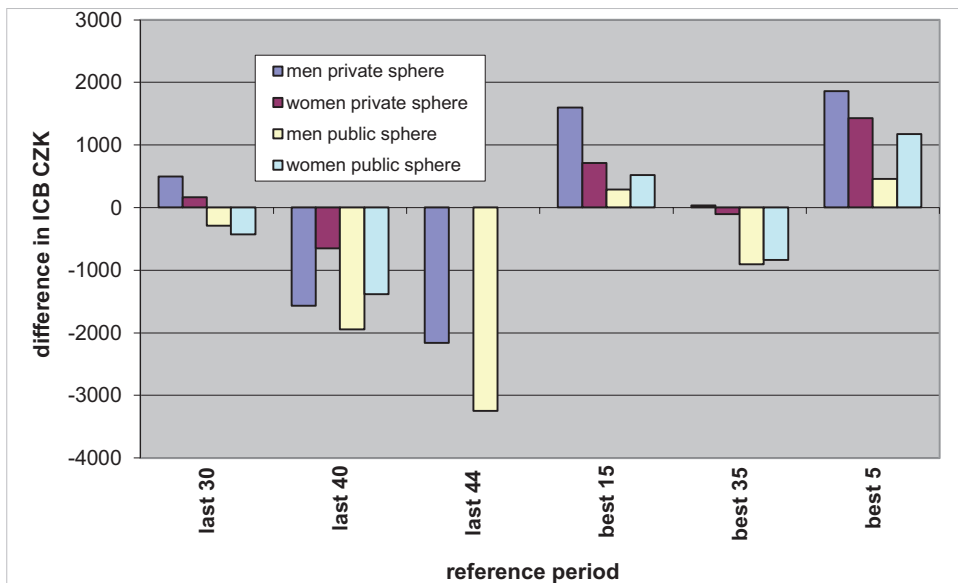
calculation basis number of years	man private sector	woman private sector	man and woman private sector	man public sector	woman public sector	man and woman public sector	man and woman total
last 22	0	0	0	0	0	0	0
last 30	496	168	277	-290	-424	-359	53
last 35	32	-101	-185	-906	-837	-770	-391
last 40	-1 564	-652	-1 222	-1 946	-1 383	-1 611	-1 359
last 44 (42)*	-2 161		-1 716	-3246		-2 125	-1 860
last 5	-1 142	69	-413	-362	1 173	1 174	145
best 15	1 602	716	1 055	288	521	319	796
best 20	1 451	557	863	89	169	118	601
best 25	1 063	451	608	-131	-182	-142	344
best 30	617	309	277	-290	-420	-359	53
best 35	32	-101	-185	-906	-837	-770	-391
best 5	1 858	1 432	1 438	457	1 173	1 174	1 345
lifetime career without worst **	-1 564	-101			-1 383	-770	

* last 44 equals lifetime earnings for men, 40 equals lifetime earnings for women, 42 together

** for men 4 worst-earnings years, for women 5 worst-earnings years

Source: own calculations based on ISPV survey (2004).

Graph 6: Individual calculation base (in CZK) according to method of determining the reference period



Source: own calculations based on ISPV survey (2004).

The impact of changes in determining the reference period for the overall pension system, namely the macro-economic dimension is captured in the table below. The author calculated the impact of changes in the length of the reference period on the overall balance of the pension system. The calculation employs a simple expenditure model which is based on the following assumptions. The number of newly granted pensions each year is a constant 90 000. An abstraction was made from wage and price level development as well as from the extension of the reference period for each year. Paradoxically, in contrast with the expected results, that any extension of the reference period would reduce the cost of the pension system, by extending the reference period to 30 years pension costs would in fact increase.

The reason for such a development is that extending the reference period increases the relationship between paid contributions and pension benefit. Paid contributions therefore depend on the development of the lifetime income of the model individual. Extending the reference period from the current 22 years to 30 whilst considering the average retirement age to be 59 years, includes the period of highest earnings for the model individual (for earnings between 29-59 years see Chart 11). Such relatively high levels of income will clearly increase the personal calculation base and so the pension. Therefore it is necessary to bear this in mind when planning further changes to the length of the reference period as part of the pension reform process. Any proposal for change must be prepared to reflect both the current situation and the distribution of the lifetime income of individuals. The greatest savings in terms of pension system total expenditure would be provided by extending the reference period to lifetime income. By introducing such an extension the resulting savings with regard to newly granted pensions would amount to 202 million

CZK; after 5 years savings would amount to 1 billion CZK and after 20 years a significant 4 billion CZK. Conversely, a change in the reference period to the 5 best years would lead to an increase in expenditure within the pension system of nearly 2 billion CZK.

If the savings resulting from the extension of the reference period to lifetime earnings are expressed as a percentage of total expenditure on pensions, after 20 years of implementation a saving would accrue totalling 1.5% of total expenditure. Results are summarised in the following table.

Table 6: Cumulative pension savings by changing the length of the reference period

calculation basis number of years	cumulative savings 1st year	cumulative savings 5th year	cumulative savings 15th year	cumulative savings 20th year
last 30	-3.24	-16.2	-48.6	-64.8
last 40	140.40	702.0	2 106.0	2 808.0
last 44 (42)	201.96	1 009.8	3 029.4	4 039.2
best 5	-96.12	-480.6	-1 441.8	-1 922.4
savings as % of pension expenditure				
last 30	0.00	-0.01	-0.02	-0.02
last 40	0.05	0.26	0.79	1.05
last 44 (42)	0.08	0.38	1.14	1.52
best 5	-0.04	-0.18	-0.54	-0.72

Source: own calculations based on ISPV survey (2004).

5 Methods of income valorisation within the reference period - methods and data

A further tool available for influencing the pension is the way in which income subject to the reference period is valorised. A comparison of foreign systems shows that the most favoured methods are to either valorise income according to wage development (or according to the increase in the general calculation base from which contributions to the pension insurance system are paid) or to valorise according to general price level development. The least common method is a combination of the two options. Other valorisation methods are employed sporadically such as that related to the total cost of newly granted pensions. In the Czech Republic, reference incomes are indexed according to the development of the general calculation base. On the practical level valorisation is determined as a function of the so-called growth rate general calculation basis (GRGCB). The GRGCB is determined using general calculation bases which are set by the government for the period up to 30 September of the following calendar year. The general calculation basis responds to the average monthly wage for the calendar year, identified by the Czech Statistical Office (CSO), multiplied by the conversion rate set by government decree. The growth rate of the general calculation base is determined as a proportion of the general assessment base for the calendar year, two years prior to the payment of pensions, multiplied by the conversion rate, and the general assessment base for the calendar year for which the annual reference income is calculated. For the purposes of this study, the author calculated to what extent the amount of pension for individuals receiving an average

wage would change depending on the method employed for the valorisation of reference incomes – according either to the growth of the general calculation basis or that of the general price level. The calculation procedure was as follows: data on the growth of the general price level was taken from the CSO and, in the same way as the growth rate of the general calculation base is calculated, estimation was made of the growth rate of the general price level (GRGPL). Using this rate, the author then modified the average-income individual and, according to the conditions of 2008, calculated his/her pension benefit, assuming the valorisation of income within the reference period was performed using an increase in the general price level. Pensions were calculated for both men and women and for both sexes combined. Average wages since 1986 and the development of the general price level since that year were used as the calculation base. The reference period was set at 22 years and the average period of insurance for men at 44 years, for women 40 years and at 42 years for both sexes combined. Non-contributory periods were taken into account to the extent identified in the study „Analysis of non-contributory periods in the CR and recommendations for monitoring and registration” (Holub, 2004). Their range was adjusted to the length of each relevant reference period. Non-contributory periods were considered to be 1 508 days for men, 1 785 days for women and 1 647 days for both sexes. The pension benefit thus calculated was then compared to the pension benefit computed according to existing rules, i.e. valorisation of income according to the growth of the general calculation base. Replacement ratios were calculated for both types of pensions (the pension from income valorised by an increase in the general calculation base and that from income valorised by the growth of general price levels). Finally the author computed the impact of macroeconomic changes on the pension system caused by the method of valorisation chosen.

6 Methods for the valorisation of income within the reference period – results

When one evaluates the development of key macroeconomic indicators and compares the development of the general price level and nominal wage growth it is evident that since 1996 in all but one year nominal wage growth has been greater than that of the general price level. The difference between inflation and the growth rates of nominal wages (i.e. real wage growth) together with other macroeconomic indicators can be found in this table.

Table 7: Main macroeconomic indicators (%)

indicator	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
growth of GDP	4.0	-0.7	-0.8	1.3	3.6	2.5	1.9	3.6	4.5	6.3	6.8	6.6
growth of nominal wages*	18.3	9.9	9.2	8.4	6.4	8.7	7.3	6.6	6.6	5.3	6.5	7.3
inflation	8.8	8.5	10.2	2.1	3.9	4.7	1.8	0.1	2.8	1.9	2.5	2.8
growth of real wages	9.5	1.4	-1.0	6.3	2.5	4.0	5.5	6.5	3.8	3.4	4.0	4.5

* Average gross nominal wages

Source: CSO, *Main macroeconomic indicators 2008*.

The development of these indicators shows that should valorisation be performed according to growth of the general price level or by a combination of wage growth and general price level development it would decrease the personal calculation base of individuals as well as their pensions, and thus the overall expenditure of the pension system (assuming other parameters to be unchanged). The difference between the growth rate of the general calculation base and that of general price levels is shown in the following table.

Table 8: Growth rate of the general calculation base and of the general price level

year	GRGCB	GRGPL	difference
1986	7.2739	4.5941	2.6798
1987	7.1248	4.5895	2.5353
1988	6.9660	4.5803	2.3857
1989	6.8012	4.5171	2.2841
1990	6.5611	4.1177	2.4434
1991	5.6856	2.6294	3.0562
1992	4.6425	2.3667	2.2758
1993	3.7063	1.9592	1.7471
1994	3.1264	1.7811	1.3453
1995	2.6382	1.6325	1.0057
1996	2.2282	1.5005	0.7277
1997	2.0157	1.3829	0.6328
1998	1.8438	1.2493	0.5945
1999	1.7037	1.2236	0.4801
2000	1.5982	1.1776	0.4206
2001	1.4727	1.1248	0.3479
2002	1.3723	1.1049	0.2674
2003	1.2857	1.1038	0.1819
2004	1.2057	1.0737	0.1320
2005	1.1462	1.0537	0.0925
2006	1.0753	1.0280	0.0473
2007	1.0000	1.0000	0.0000

Source: own calculations based on MLSA and CSO data.

Changing the method used for the valorisation of past earnings from wage valorisation to price valorisation leads to a decrease in the pensions of individuals and thus a decline in the profitability (from the individual's point of view) of the PAYG-financed pension system. The valorising of income according to wage growth (i.e. by the growth of the total payroll, thus the sum of population and wage growth) should provide a comparable rate of return for PAYG pension systems with funded pension schemes (provided that the interest rate is the same as the sum of population and wage growth)⁷. Wage valorisation of reference incomes is better for the individual, but is in conflict with the financial sustainability of the pension system as a whole since it is, quite simply, more expensive than using price valorisation. The effects of changes in the method of valorisation from wage valorisation

⁷ Closer to this issue, see Aaron's rule.

to that according to price level development on the individual pension of individuals with different levels of income – set out as multiples of the average wage – and the impact on replacement rates is shown in the following table.

Table 9: Effect of changes in indexation on individual income

		GRGCB			GRGPL		
		man	woman	total	man	woman	total
multiple of average wage	average insurance period	44	40	42	44	40	42
	NP–days within 22 years	1 508	1 785	1 647	1 508	1 785	1 647
0,5	pension (CZK)	8 954	8 400	8 678	7 919	7 690	7 766
	replacement rate	78.2%	73.3%	75.8%	69.1%	67.1%	67.8%
	last salary (CZK)	11 456	11 456	11 456	11 456	11 456	11 456
1	pension (CZK)	11 350	10 543	10 948	10 051	9 443	9 749
	replacement rate	49.5%	46.0%	47.8%	43.9%	41.2%	42.5%
	last salary (CZK)	22 912	22 912	22 912	22 912	22 912	22 912
2	pension (CZK)	13 105	12 209	12 659	12 082	11 238	11 661
	replacement rate	28.6%	26.6%	27.6%	26.4%	24.5%	25.4%
	last salary (CZK)	45 824	45 824	45 824	45 824	45 824	45 824
3	pension (CZK)	14 860	13 876	14 371	13 325	12 419	12 874
	replacement rate	21.6%	20.2%	20.9%	19.4%	18.1%	18.7%
	last salary (CZK)	68 736	68 736	68 736	68 736	68 736	68 736
0,5	Difference in pension wage-price	1 035	710	912	11.6%	8.5%	10.5%
1	Difference in pension wage-price	1 299	1 100	1 199	11.4%	10.4%	11.0%
2	Difference in pension wage-price	1 023	971	998	7.8%	8.0%	7.9%
3	Difference in pension wage-price	1 535	1 457	1 497	10.3%	10.5%	10.4%

Note: NP – non-contributory periods

Source: own calculations based on MLSA and CSO data.

It is evident that a change in the method of valorisation of income within the reference period from wage growth valorisation to that reflecting changes in the price level would lead to a decline in the pension for the model individual i.e. with income equal to a multiple of the average wage. The decrease would be in the range 8% to 11% depending on the wage.

The macroeconomic expression of savings made from changes to the valorisation method used for reference earnings – from reflecting growth in the general calculation base (wage) to valorisation reflecting growth in price levels is shown in the table below. From this table it is apparent that accumulated savings from newly granted pensions (assuming a constant number of new pensions granted of 90 000 each year) would amount to 1.3 billion CZK in the year of introduction and close to 26 billion CZK after 20 years.

Table 10: Cumulative pension savings by changing from wage to price valorisation (in millions CZK)

newly granted pensions	1st year	5th year	20th year	50th year
90 000	1 295	6 475	25 898	64 746

Source: own calculations based on MLSA and CSO data.

7 The synergic effect of extending the reference period and changing the reference income valorisation method

With regard to total pension system savings one might intuitively guess that the best option would be to change the extent of the reference period as well as the method used for the valorisation of income subject to the reference period. If one wishes to assess the impact of the synergic effects created by introducing changes to the methods of indexing and extending the length of the reference period, one would need data on lifetime income and valorisation method as well as on price level development for the entire period of insurance. Since such data is not available for the Czech Republic (due to the specific conditions pertaining before 1989), it is necessary to adopt certain simplifying conditions. For the purposes of lifetime income, data (2004) presenting the current distribution of income across the population, broken down by age group was used. The author assumes the simplification that the distribution of income is identical with the development of lifetime income for the average individual. The average period of insurance (42 years) was taken as the reference period. Inflation before 1986 was taken into account at a constant rate of 2% and growth in nominal wages at 4%. The GRGCB was then calculated from this input data from which lifetime incomes were „discounted“. The resultant reconstructed lifetime incomes were then valorised according to the development of the general price level. The results are presented in the following table.

Table 11: Amount of pension (in CZK) by extending the reference period to 42 years, changing from wage to price valorisation and combination of these changes

	current state	extending of reference period	changing method of valorisation	extending period + changing valorisation
Amount of pension	11 324	11 199	9 749	9 015

Source: own calculations based on MLSA and CSO data.

It can be seen that the extension of the reference period for lifetime income together with a change in the valorisation of income within the reference period would cause a significant reduction in income compared with individual changes only. The method used for the valorisation of reference income has the biggest effect on the amount of the pension resulting in a reduction of 1 575 CZK. The extension of the reference period to lifetime income alone would reduce the model pension by a mere CZK 125. If the two changes were to be made at the same time it would lead to a decrease in the pension of 2 309 CZK due to the attendant synergic effect.

The macroeconomic expression of the synergy-effect savings i.e. the effects of a change in the valorisation method and a change in the reference period to include lifetime income can be seen in the table below. It is apparent that accumulated savings from newly granted pensions (assuming a constant number of new pensions granted of 90 000 each year) would amount to 2.5 billion CZK in the year of introduction and to almost 50 billion CZK after 20 years.

Table 12: Cumulative pension savings by combination of extending reference period and simultaneously changing valorisation method from wage to price valorisation (in millions CZK)

newly granted pensions	1st year	5th year	20th year	50th year
90 000	2 494	12 467	49 874	124 686

Source: own calculations based on MLSA and CSO data.

Conclusions and policy recommendations

In most European countries, a long-term trend of extending the reference period from which the pension is calculated can be observed. The income valorisation method used within the reference period varies from country to country, however a general shift from wage development valorisation to general price level development valorisation can be observed.

When the length of the reference period is changed, the impact on different groups of insured persons should always be taken into consideration. The extension of the length of the reference period will generally have a more negative impact on individuals whose income gradually increases throughout their career while it will have hardly any effect on the retirement benefit of individuals whose incomes are almost constant over time.

The extension of the reference period to lifetime income would have only a small impact both on a hypothetical individual with average income and on total pension system expenditure in the current Czech pension system. This is due mainly to the structure of an individual's lifetime income which, in terms of the national economy, commences (age group to 19 years) at 11 382 CZK. Therefore, even if one takes into account potential lifetime income it will have no significant effect on the amount of pension because of the earnings thresholds used in the pension system. Because the first threshold is so low, any income above this threshold influences the final pension only minimally. In the Czech pension system earnings thresholds represent a strong element of (income) solidarity and any attempt to strengthen the principle of equivalence by extending the reference period encounters this barrier⁸.

⁸ In 2008 earnings thresholds were set at 10 000 CZK for the first earnings threshold and 24 800 CZK for the second. Income from a given period is fully included up to the first earnings threshold, any income exceeding the first earnings threshold but not reaching the second is included at 30% and income exceeding the second earnings threshold is included only at 10%. This system makes the effect of extending the reference period on the pension of a hypothetical individual with average income insignificant.

The analysis herein has focused on changes to the length of the reference period and shows that extending the reference period to lifetime income would most affect women on an average income working in the public sector – her pension income would decrease by 2.5% (274 CZK). From the perspective of the national economy extending the reference period to lifetime income would decrease the pension of a hypothetical individual on average income by 1.65% (187 CZK). If the reference period were set at the best 5 years of the working life, women on average income working in the private sector would benefit the most with a rise in their pension of 2.7% (284 CZK). The respective increase in pension for individuals in terms of the whole economy would be 0.8% (89 CZK). The distribution of income in the public sector indicates that for women a reference period consisting of the last 5 years before retirement would be the same as the 5 best year's option. Interesting results are obtained if one compares the extension of the reference period from the current 22 years to 30 years (the target set by the Pension Insurance Act). If one applies a reference period of 30 years to the current distribution of lifetime income, the extension would result in an increase in the pension of the average individual of 0.03% (3 CZK); this increase is the result principally of the private sector in which the increase in the pension of women would be 0.3% (34 CZK) and for men also 0.3% (32 CZK). On the other hand, the pension of women in the public sector would fall by 0.8% (84 CZK) and of men by 0.2% (19 CZK).

In order to exclude the effect of earnings thresholds on the results of the reference period models, the author made a comparison of the effects of changes in the length of the reference period on an individual calculation basis. In this case an extension of the reference period to lifetime income would most affect men in the public sector whose individual calculation basis would fall by 10.6% (3 246 CZK); in the national economy as a whole the individual calculation basis for an average individual would decrease by 7.1% (1 860 CZK).

Moreover the extension of the length of the reference period to 30 years would paradoxically cause an increase in pension system expenditure instead of the expected reduction. This is the result both of the fact that an extension to the reference period increases the interrelationship between pension benefits and paid contributions derived from individual income and of the development of an individual's lifetime income. The extension of the reference period from the current 22 years to 30 years covers the period in which an individual earns his/her maximum income during his/her potential working lifetime i.e. 15-59 years (considering an average retirement age of 59 years; see Graph 11). Higher income would logically increase the individual calculation basis and thus the pension. This should be borne in mind when considering further changes to the length of the reference period. Each potential modification must reflect the initial situation and the distribution of an individual's lifetime income. The highest savings in terms of total pension system expenditure would be provided by an extension of the reference period to lifetime income; in the year of implementation such a modification would lead to savings in newly granted pensions of 202 million CZK, after 5 years savings would reach 1 billion CZK and after 20 years 4 billion CZK.

Changing the method of income valorisation within the reference period from that based on the development of the general calculation base (wage increases) to that based on general price level development would lead to a decline in a model individual's pension of between 8% and 11% depending on income. Basing income valorisation on general

calculation base development is more beneficial for the insured (less beneficial in terms of total expenditure) since it ensures higher pension benefits within the PAYG system for individuals. Conversely, income valorisation based on price level development would be more beneficial for the pension scheme (less beneficial for the insured) as the increase in the price level is slower than that of wages and would assist in maintaining the financial sustainability of the pension scheme as a whole. A change in the method of valorisation from wage valorisation to that according to price level growth would provide savings of 26 billion CZK in the 20th year of operation of the new method.

The highest savings in the pension system would amount to nearly 50 billion CZK after 20 years as a result of the synergic effect of a combination of the change from wage valorisation to price level valorisation and the extension of the reference period to lifetime income.

Differences in income growth between men and women (incomes rise faster for men than for women in the Czech Republic) mean that the income valorisation method is less beneficial for individuals whose income grows faster than the average (men in terms of the Czech Republic) but more beneficial for individuals whose income increases more slowly than the average. This should be taken into account should an extension of the reference period be implemented and the income valorisation method retained since in fact it represents a certain strengthening of the principle of solidarity and the suppression of the principle of equivalence within the pension system.

In order to strengthen the principle of equivalence in the Czech pension system the author would recommend extending the reference period from which the pension is calculated to include total work life income which would lead to a strengthening of the link between paid contributions and pension benefits. The reference period could be extended gradually up to and even after 2016; it would not be limited to a maximum of 30 years as is the case under existing legislation. The author would recommend maintaining the beginning of the reference period at 1986. However, the impact of such measures on equivalence within the pension system is severely limited and extending the reference period to lifetime income would have almost no effect on the overall level of the pension because of earnings thresholds and their current settings. Earning thresholds form a strong element of (income) solidarity within the Czech pension system and lead to a high degree of granted pension levelling. Given the reduction in reference income above the earning thresholds which in turn are relatively low it might be appropriate to consider the replacement of the existing scheme by a tax-financed basic minimum pension in the form of a flat rate benefit with supplementary income pension scheme with benefits based on insurance. With such supplementary benefits there would be greater opportunity to apply the principle of equivalence as well as to extend the reference period.

Should one wish to pursue the aim of maintaining the return rate of the PAYG pension system for the insured in the Czech Republic, an appropriate solution would be to adopt a method of income valorisation within the reference period based on the development of wages. When one evaluates the current situation in the Czech Republic from the point of view of the long-term financial sustainability of the pension scheme (thus pursuing the objective of reducing expenditure on the pension system) a suitable solution would be to change the method used to valorise income within the reference period according

to price level development. In this case, the author would suggest replacing the general calculation basis growth coefficient by the general price level growth coefficient – as was implemented in Austria in 2005; such a change would be effective since it would mean a change of indexation method. The effect of such a measure would be enhanced by further extension of the reference period. Given the synergic effect, the difference between price level and wage valorisation and thus the overall impact of such measures on the amount of pension paid out as well as on pension system balance would be significant. The financial effect of such measures would be manifested stepwise and would peak around the time of the highest predicted deficits within the system⁹.

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Economic Stimulation of Demand in the Market of Adult Education

Ekonomické nástroje poptávkové stimulace na trhu dalšího vzdělávání dospělých

HELENA VYCHOVÁ

Abstract

Permanent development of knowledge is one of the preventive tools in the fight with the current problems of rising unemployment and poor facilities knowledge of an aging workforce. Continuous improvement of skills helps to maintain and to return the workforce to the labor market and to move between different working positions with the necessary skills. Active access of adults to the further education is influenced by a number of factors. The financial costs of further education are one of the major barriers to active participation of adults in further education. The present paper is devoted to an analysis of various supporting financial instruments focused on demand-side in the market of adult education, especially the individual demand for educational activities of citizens, employers and other interest groups. Processed analysis gives a detailed description of characteristics and mechanism of support instruments, the main risks and benefits associated with implementation of these tools.

Keywords

human resource development, adult education, financial support for training

Abstrakt

Permanentní znalostní rozvoj patří k preventivním nástrojům v boji s aktuálními problémy narůstající nezaměstnanosti a nevyhovující znalostní vybaveností stárnoucí pracovní síly. Neustálé zdokonalování dovedností napomáhá udržovat a navracet pracovní sílu na trh práce a formovat její schopnosti přecházet mezi pracovními pozicemi s odlišnými požadavky na potřebné dovednosti. Aktivní přístup dospělých k dalšímu vzdělávání je ovlivněn celou řadou faktorů. Výrazně negativně je v postojích dospělých – jako jedna z hlavních překážek aktivní účasti – hodnocena finanční nákladnost dalšího vzdělávání a pro usnadnění přístupu k dalšímu vzdělávání je požadováno její snížení. Předkládaná práce se proto věnuje analýze rozmanitých podpůrných finančních nástrojů poptávkové strany trhu dalšího vzdělávání, tedy především individuální poptávky po vzdělávacích aktivitách ze strany občanů, dále zaměstnavatelů a ostatních zájmových skupin. Zpracovaná analýza podává detailní charakteristiku mechanismu fungování jednotlivých podpůrných nástrojů, hlavních rizik a přínosů spojených s implementací nástrojů.

Klíčová slova

rozvoj lidských zdrojů, další vzdělávání dospělých, finanční podpora vzdělávání

Introduction

Education - as well as other activities - requires adequate financial resources. The financial intensity of education and availability of funds are one of the critical factors of further adult education. In addition to lack of time adults consider the financial costs associated with education as the main barrier of their further education. And within the financial constraints there are primarily indirect financial costs, which discourage people from continuing education. The reduction of income, which also means, even temporary, restrictions in the quality of life, plays negative role in their decision-making about the participation in the educational activities. Due to the long-term implementation of educational revenue this is very strong barrier of participation in further education because of costs in the form of a transitional decline in standard of living can not be immediately compared with the expected revenues, which are implemented in the future, a longer period. If individuals are not sufficiently convinced of the profitability of long-term investment, they will consider reduction in the current standard of living as negativity and they will prefer to avoid this activity.

1 Financial resources

The increasing education expenses raise the need to involve funds of all subjects receiving educational returns and so financing of education must become multi-resources. It is essential to ensure a considerable range of funds coming from public and private sources.

Public funds are primarily intended to promote and develop adult education. In particular they can be allocate on financial aid to cover the costs of education, whose beneficiaries can be individuals, employers, training providers, non-profit and voluntary organizations. Another part of funds can be allocated on security or co-financing of supporting services that facilitate the implementation of educational activities (counseling, information services, nursing services, etc.). In dependence on the objectives of government direct payments of the total costs of adult education may exist and educational activities then may be free for a certain target group, educational field or even all those interested in further education.

Sources of public funds for adult education:

- **tax revenues** - funds paid to public budgets in the overall tax liability
- **specific income tax** - compulsory levies on the income defined for financing of further education. The funds may be kept on a special account of public budget or on separate account in educational fund. Generated resources must be only used to finance training activities.
- **international funds** - financial assistance provided from international supporting programs

Individuals use their private funds on payments of educational costs and other supporting services, which help them with selection of courses and participation in training courses (counseling, childcare etc.).

Private funds of individuals may include:

Own resources

- **cash receipts** associated with the exercise of economic activities (employment, business, etc.)
- **targeted savings for education** - the funds are gradually generated by deposit of money and can be used only to finance the educational activities; savings may take the form of voluntary or mandatory savings; only owner of the account has right to dispose with the generated funds that he can only use for the reimbursement of expenses incurred with the further training
- **another capital income** - not primarily guided by the purpose of making the funds to finance continuing education
- Financial aid for education of individuals (for more detailed overview of the various support tools see chapter below)
- **public support** - the means of public budgets
- **private aid** - private funds mostly provided by
 - Employers to employees
 - Trade unions, professional associations to their members Non-profit, voluntary organizations to the target group of citizens (the specific definition of each group can be highly diverse)
 - The international funds

Other sources of private funds represent expenditure of employers for the purchase of external courses or self-financing educational activities. They may also contribute to the training courses that the workers take in their leisure time and on their own initiative. Direct cash costs of employers also include wages of employees studying during working hours.

Employers have available the following resources for financing further training of their employees:

Own resources

- **income from own economic activities**
- **finance purposefully formed for the further education** of employees – employers send a sum of money on the special account established for the purpose of financing further education; creation of special resources may be based on voluntary decision of the employer or is given as a statutory obligation; employers can use means to ensure the educational activities of employees

Financial support for employers on the education of workforce

- **Public support**
- **Private support** – sponsorship
- **Funds from international subsidiary programs**

The funds of social partners represent further example of the private financial resources. Their resources include contributions from members and income from their own activities. Trade subsidies are provided to members on their education either in the form of direct

payments to individuals or reimbursement of the expenses to educational institutions. Sources of non-profit and voluntary organizations include income from their activities and revenues in the form of grants and donations. Non-profit organizations may give contributions to individuals on financing their educational needs. These organizations support some training providers and other ancillary services too.

Defined manners of creation of financial resources represent number of options of security the funds for financing further education. At the same time, it is necessary to assess their appropriateness in terms of simplicity and the adequacy of security of the required resources.

The advantage of the **tax revenue** is relatively simple mechanism for the acquisition of substantial amount of funds. On the other hand there is a risk of instability means for the financing of education in the case of poorly legislated obligation to pay costs of educational activities from public funds. The funds originally defined for education are among the first resources that are affected by the financial restrictions whenever there is a need to obtain additional resources to cover other better legislatively treated financial obligations. As a consequence of this lack of restrictions funds are transferring in other sectors financed from public funds whose funding is mandatory by law.

Specific tax whose income is solely intended to finance further education provides greater stability to ensure a regular sum of revenues. Tax payers may be just employers or employees at the same time. Disadvantages of this tax can be seen in the introduction of additional tax liability and the additional tax burden. But these disadvantages can be deleted within the tax system itself, for example by transferring part of the legal shares of other taxes in favor of "educational" tax. Separation of specific tax revenues from other public budget items will ensure the inability to transfer funds to other areas of funding and transparent management of the funds. In the case of creation special educational fund it is necessary to take into account the additional costs of its creation and operating costs.

Obtaining funds from **international aid programs** is accompanied by demanding administrative procedures. Even in this case is also necessary to dispose with own resources for the purpose of co-financing. The conditions of co-financing often become an insurmountable obstacle for potential aid recipients.

Inadequacy is the main lack of **individuals' funds**. The need to finance a wide range of vitally needed supplies makes these funds outside the area of education. Considerable ignorance about the benefits that continuing education can bring is one of the reasons for the low willingness of individuals to sacrifice part of their funds to finance further education. The main advantages of investing own funds to further education are: yield of investment, inalienability of investment by another person and freedom of choice between the various educational offers.

The creation of private funds through a special **savings** represents the interesting way of securing resources for financing adult education, especially if they are combined with other advantages motivating individuals to set up such accounts. Saving accounts also

contributes to the strengthening responsibility for personal development. On the other hand **security of sufficient resources requires a longer time savings**. Due to the requirement of longer-term savings this method seems less appropriate for the satisfaction of immediate financing needs which in the case of further education dominated. At the same time, voluntary establishing of saving accounts leaves the decision to provide funds for financing further education entirely on the motivation and the financial means of individuals. In this connection but higher interest on saving accounts can be expected from the citizens with better levels of education and financial situation rather than from individuals with low levels of education, although whose participation in further education is in compared with the former group more desirable.

Financial aid, whether private or public, certainly brings benefits to individuals in the form of reimbursement of costs associated with education. Problems can be seen in the lower accessibility of support due to lack of information and knowledge of individuals that are necessary for obtaining the assistance. There is therefore a risk that aid will be used by better knowledge equipped individuals and individuals with inadequate education will remain outside this system. In the view of the body granting aid the disadvantage can be seen especially in the risk of abuse of aid and in growing the system costs.

In the case of **own resources of employers** holds nearly the same conclusions as in the case of public funds and own funds of individuals. Education of staff is subordinated to the main objective of business activities. Therefore, in the case of limited financial resources when the achievement of business priority targets is endangered the austerity measures are set up. In the first instance this decision will be applied on the business activities that are not directly associated with making a profit. Unfortunately, into this group is very often wrongly ranked the training of staff. Education is often regarded as a risky investment with a particularly low long-term profitability. This fact does not contribute to an increase in employers' willingness to sacrifice part of corporate resources to this precarious business. Advantages can be seen in the realization of revenues from investment in education and possibility of choice and influence on education activities forms through the financial strength that brings own employer's resources.

Special fund established by the employer represents appropriate tool for financing education of their staff, especially if its establishment is compulsory. Its voluntary establishment would depend only on the free decision of the employer with risk of insufficient interesting of employers. If the employer is obliged to regularly pay a certain amount on the special account, he will use these resources solely to the financing of educational activities of employees. The existing resources that are now available to employers forcing them ensure the training of staff. Disadvantage of this tool can be partially attributed to the introduction of the next legislative compulsion, which normally raises the opposition, like any other legally established obligation. At the same time, the special levy is other financial ballast item for the employer's.

In addition to the more demanding administration associated with obtaining and using the **financial aid** provided by other financial entities, this support does not have for the employer further significant disadvantage. On the contrary reimbursement of the costs associated with training staff from external sources represents advantage for the employer.

On the other hand the provider of financial aid must ensure sufficient control of effective spending of financial support.

The following table gives summary of the main advantages and disadvantages of the financial resources for the payment of educational costs.

Table 1: The advantages and disadvantages of methods of making financial resources

	Resources	Advantages	Disadvantages
Public funds	<i>Tax revenues</i>	Simple withdrawal of money Obtaining substantial amount of funds	Preference of mandatory expenses Uncertainty of resources Risk of lack of resources
	<i>Specific income tax</i>	Greater stability, security of resources Separate management of funds	The risk of increases the tax burden Additional costs of establishment and operating Educational Fund
	<i>International funds</i>	Access to other resources	Demanding process of administration Requirement of own funds for co-financing
Private funds of individuals	<i>Own income (wages, capital income)</i>	Return of investment Freedom of choice Influence of educational supply	Deficiency
	<i>Savings for education</i>	Strengthening of individual responsibility	Necessity of long-term savings More accessible to better educated and income secured part of the population Less accessible to most needed individuals
	<i>Financial aid (public, private, international)</i>	Support of expenses	Risk of misuse The risk of costly system
Funds of employers	<i>Income from own economic activities</i>	Return of investment Freedom of choice Influence of educational supply	Uncertainty of sources Risk of lack of resources
	<i>Finance purposefully formed for the further education of employees</i>	Special funds using only for educational purpose	Increase in costs Enforced obligation
	<i>Financial aid (public, private, international)</i>	Obtaining additional resources	Risk of misuse Demanding process of administration The risk of costly system

Source: author.

Research projects¹ dealing with the issue of the seriousness of various obstacles that discourage individuals from the further education point to the same causes of insufficient level of adult education. Financial reasons are emerging at the forefront of the “most serious” limitation to which the adults interesting in further education faced. Accordingly lack of resources and difficult access to external sources represent for employers main factors of their insufficient involvement in the education of the employees. There exists means of mitigation of the barriers that would ultimately contribute to greater participation of adults in educational activities. The following text presents and describes measures for support the educational expenses and outlines main advantages and disadvantages that their introduction could bring.

2 Demand side financial support

Supporting financial instruments can be focused on both sides of the educational market. This group of instruments can include offer or demand side financial incentives - tools aimed at the supply side that support educational institutions and the demand side that promote purchasing power of the citizens, employers or other voluntary organizations. Although both directions of support is desirable, the shifting more attention to demand-side of educational market is currently promoting. This is due to the necessity of increased individual responsibility for the development of own knowledge. The aim of this work is to present the characteristics and assessment of existing and most commonly used tools supportive the demand-side market of continuing education.

2.1 Demand-side support of individuals

1. Payments subsidies for educational courses
2. Support of other costs associated with education
3. Compensation for reduction in income as a result of further study
4. Support of the living costs during a period of study
5. Educational vouchers
6. Scholarships, grants
7. Study loans
8. Tax allowance
9. Individual educational saving accounts
10. Paid study leaves
11. Free courses offer
12. Ensuring or extending the range of additional services

1. Payments subsidies for educational courses

Subsidies are provided directly to adults and they decide about the purchase of specific educational services themselves. Adults can choose, while respecting the legal rules for the use of grants provided, educational courses suited to their individual needs. The aim of the subsidies is to help adults with the payments of course fees.

1 For example KOTÍKOVÁ; REMR (2007), CZESANÁ; MATOUŠKOVÁ; VYMAZAL (2005), CEDEFOP (2003).

Financial subsidies may come from public budgets as well as from private sources when employers make a financial contribution towards the voluntary education of their employees. Support can be paid on the basis of proof the attendance to the course or after successful completion of course declared by certificate. The funds are intended to finance only accredited courses satisfying the quality requirements. The course costs can be covered fully or partly by subsidies.

Subsidies give learners, in addition to obvious cost benefits, the freedom of choice. Individuals can choose from educational accredited offers the best courses suited to their individual needs.

On the other hand payment of subsidy in cash increases transaction risk arising from the handling of funds (loss, theft of funds) and requires from the recipients greater safety in the handling of funds. The problem is an abuse of the aid by citizens whose use funds wrongly for buying other services and goods instead of education. Disadvantages can be found in limited financial resources for subsidies and the additional administrative burden of public body in conjunction with the subsidies management system, demanding control of the provision of support, securing safe payment and the creation of a sufficiently effective means that eliminate the possibility of abuse. Furthermore, there is a risk of lack of information that individuals need for responsible decisions about their further education. If the financial support is conditional on co-financing the course fees by individuals there will be risk of limited access to subsidies and less involvement of low-income groups.

In Denmark the unemployed who failed to meet conditions of unemployment insurance are entitled to payment of course fee in the case of full-time accredited courses.

In Great Britain persons involved in the government program aimed at encouraging people to work (New Deal) have, inter alia, claim to reimbursement of charges of training courses (in addition to the financial aid, contribution towards the costs of the study materials, transportation costs, equipment costs or costs associated with child care.

Finland provides support for education in the framework of active employment policy.²

2. Support of other costs associated with education

Prices of courses are not the only expenses that adults interested in learning need to pay. Education brings additional costs that individuals did not have to pay before the study. The costs increase significantly especially in the case of courses organized on more distance places from the residence or employment of learner. In this case transport costs are higher and longer time spent away from home increases spending on food and the provision of childcare. Subsidies include financial support on transport, food, study material, services and care for children. Alternative solution represents a security of babysitting at moderate charges or free of charge.

² Processed with using information that is available at the website of European Training Village. CEDEFOP. Available at <http://www.cedefop.europa.eu/default.asp>.

The financial resources for these subsidies may come from public funds and resources of employers. While in the case of employers the support of associated costs is limited by the purpose of education that has to be more closely linked to job.

The disadvantage of the tool is the increased burden on the public eventually corporate budgets.

3. Compensation for reduction in income as a result of further study

Temporary loss of parts or the whole of income due to restrictions of the work in favor of further study is a major financial barrier of greater participation in adult education. The purpose of this support is to offset the opportunity costs to adult learners.

Staff can obtain support from the employer in the form of compensation or payment of wages during a period of study. Another option is the supplementary payment of temporary income reduction from public sources.

The advantage is to overcome or at least reduce the negative impact of decline in income of adult students.

The disadvantage is additional financial burden on resources. Staff costs represent for employers one of the most significant cost item. That is way the willingness of employers to use this tool to promote further education of employees will be rather negative. This tool means for employers additional financial burden. They have to pay wages to employees in spite of reduction in their work performance.

In Finland financial support for adult learners is provided on the condition that they have worked at least 10 years. The total amount of the contribution depends on the length of employment. Each month of employment provides entitlement to 0.8 day of financial support and the amount of the financial contribution is based on previous income before beginning the studies. Basic monthly amount is € 500 + 20 % of previous income below the threshold 2 700 EUR + 15 % of income exceeding the previous maximum limit of EUR 2 700. Basic benefit is financed from state funds; part of the benefit derived from the income is paid from the Unemployment Insurance Fund. Resources of this fund represent unemployment insurance paid by employers and employees.³

4. Support of the living costs during a period of study

Studies of adults required to sacrifice some time for the education at the expense of other activities. These other normal daily activities have to be carried out and can not be submitted without a refund. If the time originally allocated to these activities is devoted to education, it is necessary to ensure these activities in another way, especially by their purchase. At the same time, decline in income associated with reduction of work hours may threaten the security of living standard. Financial assistance with payment of living costs during studies will help to overcome the temporary negative financial impact of education on living standard. Financial aid represents a payment of a certain amount to

3 Processed with using information that is available at the website of European Training Village. CEDEFOP. Available at <http://www.cedefop.europa.eu/default.asp>.

adult learners. Support can be provided to all adult learners or only to defined group of adults. The most common criteria for defining the target group of beneficiaries include the amount of family income, the number of dependent members of households or educational attainment of adult.

Assistance with the payment of running costs, which at the time of the study increased, influences decisions of adult in positive way. At the same time, it is necessary to consider the amount of benefit. This amount has to cause the desired behavior of adults and not to be financial burden on public budgets from which the benefits are provided.

5. Educational vouchers

Educational vouchers engage funds of all subjects involved in the financial security of training. Their contributions together create the value of vouchers. Educational vouchers are used as a means of payment for education.

This supporting system can be simply described like this:

- Adult will receive the voucher and choose a training program which he will pay by voucher. Then the educational institution send voucher to institution that ensure administration of system.
- Condition of reimbursement the vouchers is usually the accreditation of educational institution. Accreditation should guarantee the fulfillment of quality standards by the educational institution.
- Vouchers may be variously modified. Their value can cover the entire price of the course or just its part. The value of vouchers can also depend on income of adult or the size of his own cash contribution etc.

In this case support of educational costs takes the form of „check“ given to adults that they use to pay the course fees. Educational vouchers change direction of support from the educational providers of courses to participants who may spend the funds only for education. Final reallocation of resources depends on decision of adult's participant of courses. The value of the voucher is determined on the basis of different criteria, most often as the average amount of the costs of one lesson or as the average price of a training course or a certain number of teaching hours.

Voucher systems are highly diverse and vary in a number of elements. Differences can be found in particular in the amount of costs that are paid by vouchers (full or partial payment), in the target group of recipients of vouchers, in providers of education that can receive vouchers (only accredited or all providers), in the orientation of training that is paid through this instrument (general or specific training), in the limitation of the amount of provided aid during a certain period (e.g. year), in involvement of the state in the system.

In accordance with the latter criteria there can be defined the following types of vouchers:

- Fully funded by state
- Partly funded by state
- Privately funding

Educational vouchers fully funded by state

Adults interested in education are not receiving support in the form of cash but vouchers. In fact, this support is similar to subsidies for educational courses characterized above but here it has a modified non-monetary form.

Educational vouchers partly funded by state

Adult learning should take place primarily on the basis of individual initiative and role of the state should only be in stimulation of learning activities, rather than take responsibility for securing of education (as in the case of initial training). That is why the vouchers with partial funding from the state represent appropriate tool of support. Government institutions - usually on the lower administrative levels (regional or local government) - only contribute to cover the total value of vouchers. The vouchers with partial state aid provide public support to adults and increase their participation in further education.

Privately funding educational vouchers

Employers can support education of their employees by covering of educational costs. Employees can obtain educational vouchers in the form of bonuses in addition to wages.

If provision of these employees' bonuses is tax advantageous for employers the instrument will represent appropriate solution of contribution to financing education of staff. At the same time there is public support in the form of tax exemption. Private funding vouchers can also be used by the social partners to promote the education of their members.

The main advantage of educational vouchers systems is easier administration process because the allocation of resources is not a subject of complicated decision-making process. Vouchers can be accepted only by accredited providers of adult education which should be ensured the quality of provided training. The advantage of multi-source financing is supplemented by the possibility of state or employer to influence the direction of funds through the identification of training areas to which vouchers can be used, or target groups of recipients of vouchers. Individuals themselves choose the appropriate educational activities and educational providers. If adults had to spend part of their own funds on the financing courses they would be more responsible in the selection and motivated to complete the training.

Vouchers bring the same positive effects as current money for the market like promotion of the competition among educational providers. Increased competition brings benefits to participants in the form of greater involvement of educational providers to meet the needs of adults. The providers have to take into account the needs of participants and provide better services. At the same time vouchers avoid an abuse of provided funds because vouchers can not be used for other purposes than education in comparison with money. Voucher system is a transparent method of distribution of financial support that simultaneously allows monitoring the utilization of the financial support.

Ensuring the administration and the functioning of voucher system by the external organization with long-term experience in this field of business will remove costs associated with starting and operating system from public authority. External organization with experience in operating the activities may better ensure all activities associated with the issue and distribution of vouchers, their payment, records of financial flows, creating a database of educational institutions, statistical reports, monitoring the functioning of the system etc. Distribution network of long-established company ensures the availability of tool throughout the country and guarantees availability of vouchers to all citizens. At the same time vouchers can be used to ensure feedback from course participants. For example they can complete a short questionnaire that is a part of the voucher. Through this questionnaire adult rate the quality of and satisfaction with courses.

In the case of business training presented tool can be used to ensure the financial costs of training courses for staff. In addition to financial support for training in the form of vouchers employees obtain the freedom of choice their own educational path adapted to their capabilities. The employer remains as main financial body but the choice of a course (from offers of accredited providers) depends on the decision of participants.

Summary of the main advantages of vouchers systems:

- choice of courses according to preferences of adults
- increased competition between educational providers will bring improvement of services in accordance with the needs of the adult learners
- improvement of the information and counseling services because educational providers need to present their services to the public
- increase in investment in education
- transparent way of providing financial support
- possibility of targeting aid to disadvantaged individuals or qualifications whose amount is inadequate in the labor market
- monitoring the utilization of resources
- public funds effectiveness
- target support - utilization of resources only in the field of education
- time, financial and administrative savings for public sector
- successful long-term experiences with these tools
- security of payment, a higher protection against theft
- utilization of existing distribution networks and security of support availability to all citizens
- security of feedback

The arguments against the educational vouchers include fears of lower ability of individuals to make properly choice from educational offer and to assess the quality of educational providers. It is therefore necessary to establish a quality system providing information and advice to adults that they need for deciding about learning opportunities. And of course operation and administration of the voucher systems will require a certain financial resources.

In Austria there are provided vouchers or individual training accounts that individuals can use to finance the cost of further education. Educational vouchers and educational accounts have been established at regional level with the current involvement of social partners' organizations.

In Vienna adult receives the amount up to 150 euros or 300 euros, if he is unemployed or 450 euros, if he visits educational courses of second chance.

In the region of Styria there exist the following types of vouchers:

I. Educational vouchers for start-up businesses designed to:

- 1. preparation of individuals for the purpose of getting the business license – 50 % reimbursement of the cost of the course, up to a maximum of 436 euros;*
- 2. further training in business management, marketing and controlling – 50 % reimbursement of the cost of the course, up to 290 euros; course must meet the following criteria: duration of course at least 80 hours, the granting a certificate after successful completion of the course.*

II. Educational vouchers for adults with completed education in apprenticeship field of education – vouchers are intended to promote continuing vocational training during the next five years after completion of apprenticeship training (50 % reimbursement of the cost of course to a maximum of 290 euros or 363 euros for apprentices who have reached the mark "excellent" in final examination); course must meet the following quality criteria: duration of course at least 80 hours, the final exam.

III. Educational vouchers for special skills – these vouchers are valid for 10 years after completion of apprenticeship and can be used for training in the field of computers, CAD / CAM and marketing; 50 % reimbursement of the cost of course, maximum up to 723 euros; course must meet the following quality criteria: duration of course at least 80 hours, the final exam.

In Upper Austria there exist two types of educational accounts for support the continuing education of persons with only completed apprenticeship. These vouchers can be used to finance technically-oriented further training or retraining (outside retraining education under employment policy):

I. Learning accounts – 50 % reimbursement of the cost of training course leading to professional qualifications, up to 730 euros. Participants must demonstrate attendance in the courses.

II. Special educational accounts for the financing formal education leading to a qualification (e.g. apprenticeship certificate or the master craft tests). If the test is successfully passed, it may be compensated 50 % of the cost, up to 1 460 euros. Funding is only available for courses provided by registered and accredited institutions situated in the region.

Financial aid for adult education is awarded by the social partners in Austria too. The most important in terms of the number of participants are educational vouchers of Federal chamber

of workers and employees. Each member can order educational voucher in the amount of 100 € (in some federal land members on parental leave receive a voucher with a value of 150 €). Individuals receive 1 x voucher with value of 50 €, 2 x 20 €, 1 x 10 € (for persons on parental leave further 1 x 20 €, 3 x 10 €). The funds for financing the vouchers come solely from the resources of Chamber. There is not any participation of public funds. At the same time, vouchers can be combined with other educational federal government's accounts. Vouchers are not transferable to other persons. Providers of education after receiving the vouchers from adults send them to Chamber. The vouchers are refunded only to a few selected providers of continuing education. The chamber itself manages the entire system, there are not involved any other institutions such as banks.⁴

6. Scholarships, grants

Scholarships and educational grants can use adult learners for payment the costs of education. The scope of the costs financed from these funds can be very diverse. The basic scholarships and grants solely cover the price of course. There may be other grants funding wider educational costs. These generous financial supports can help to finance expenditures on transport, food, and accommodation, study material, securing the services of child care or basic living expenses. In case of successful completion of education it can be provided extra financial "bonus". Qualification for benefit can be defined through a series of criteria. The most commonly used criteria represent the age, income, attainment education, field of study. The amount of the grant can be defined for example as a flat amount for all eligible applicants, according to the price of courses or applicant's income etc.

Scholarships and grants are primarily financed from public budgets. In some cases some non-profit organizations can provide scholarships and grants too. Business scholarships are intended for highly specialized long-term courses.

Provision of a relatively significant amount of funds for payment the costs of further education is the advantage of this support. At the same time due to the volume of available sources of funds is not possible to offer this form of subsidy to all adult learners and it is necessary to apply some restrictions. Management and decision-making process of grant system increases administrative burden of public body. Potential applicants of grants have to spend time on survey of terms of the grants and documentation the compliance with them. This longer application process may deter some adults.

In Denmark there are state grants for adult education assigned for employed and unemployed aged 25 - 60 years and the learners of open full-time education at university level. Adult can obtain grant if he study accredited programs and he concluded an arrangement on study leave with his employer (in case he is employed). Employed persons receive grand for maximum 52 weeks during the five-year period; the unemployed are entitled to financial support for 6 weeks during the entire period of 1 year-long unemployment.

In Denmark adults can get grant for further vocational training. This financial support can get employed and unemployed persons who have completed upper secondary education,

⁴ *Processed with using data available in Thematic analysis, CEDEFOP [cit. 2007-05-25]. Available at <http://www.cedefop.europa.eu/default.asp>.*

vocational training program or program of higher vocational education but they do not have adequate work experience of 5 years. Training takes place in the technical college, educational centers for the labor market or in educational programs. Participants are entitled to educational grants if they lost income or a job and have an agreement on educational leave with their employer. Grants are provided under individual loss in income, the maximum amount represents the amount of unemployment benefits. Students of other professional educational programs may receive a financial support to cover costs associated with transport, food and accommodation.

In Sweden financial aid is available to students up to 55 years of age. People in training courses in the labor market receive grants in an amount equal to unemployment benefits.

In the UK adults can get the reimbursement of educational costs. The maximum amount of grant is 30 pounds per week. The qualification for grant, as well as the amount depends on the student income. For payment of grant it is necessary to document attendance at the course each week. Grant is usually paid for 2 years.

In the UK General Federation of Trade Unions provides grants to students of full-time study and Open University. The grants support study in the fields of economic theory, history and industry. The sources are paid from Educational Fund of General Federation of Trade Unions.⁵

7. Study loans

Study loans support financing of educational expenses through the advantageous interest rates, longer payback period and postponement of the initiation of repayment or the granting of state guarantees to students. If the students get state guarantees they will not have to prove sufficient income for getting bank loans. Loans are used mainly to finance training courses but range of the costs paid from borrowed funds may be broader. Depending on the specific conditions there can be financed other costs associated with further training (educational materials, transport, living expenses). The funds are paid if students prove attendance at course, admission to the course or educational expenditure. Payment may be send directly to the accounts of educational institutions or individuals who subsequently used them to cover educational costs. Advantageous installments may take form of deferred repayments until the time of competition training, after a certain period of time from the end of study or after achievement a certain level of income. It is possible determine maximum load of income by installments. At the same time, it can be possible to pay the full or part of amount of the loan whenever during the repayment period, without fear of penalty or burden by other charges due to make payments out of the payment schedule.

Loans may be provided by public institutions or private banks. In the case of private banks the state compensates them the provided benefits from public funds. Public support for

5 Processed with using information that is available at the website of European Training Village, CEDEFOP. Available at <http://www.cedefop.europa.eu/default.asp> and at Internet information portal of public administration of Great Britain, part of lifelong learning of the Ministry of Education of Great Britain. Available at <http://www.direct.gov.uk/en/EducationAndLearning/AdultLearning/index.htm>.

private institutions may include compensation of provided favorable interest rates, state guarantee in the case of clients with the problem of financial insolvency.

Advantage of loans is possibility to borrow funds that will be paid back under better conditions. Furthermore, it is possible to find similar benefits as in the case of educational voucher like pressure on the quality of educational services, the choice of educational opportunities in accordance with student preferences, higher motivation to complete the course etc. The risk of the insolvency of clients and the financial costs of the system represent disadvantages of this tool. If the repayment of loans is started after achievement a certain level of income there is a risk of default a loans because of low income of adults. At the same time, the uncertainty of the learners about their own future ability to pay may lead to lower interest in this instrument.

Further loans can be provided as irrecoverable loans on education. In this case individuals do not repay borrowed money in the future. The allocation of this loan is defined by strict conditions and it is intended primarily for the clearly defined target group. Utilization of this tool is again limited by shortage of resources.

The Finnish government gives guarantee on repayable loan and students do not have to declare income for the purpose of obtaining the loan.

In the UK there exist the loans for the development of professional careers (CDL). Adults can use these bank loans with deferred payment for financing the vocational training or education related to employment. The amount of loans ranges from 300 - 8 000 pounds. Loan is repaid after one month from completion of training. Loans are available to employed and unemployed persons and entrepreneurs. The funds can be use to finance the education lasting up to 2 years (or three if education includes practical training lasting 1 year). After completion of study students repay the loans to the bank for a fixed period at a fixed interest rate. The loan can be used to cover tuition fees, cost of educational material, childcare, transport, living costs (expenditure on food, clothing, footwear, heating, installment loans, housing) in condition that these costs are not covered by other grants or social benefits and the person does not work more than 30 hours a week. If a student is unable to repay the loan, the bank may postpone the payment (up to 17 months) in cases of unemployed person, employed person receiving some social benefits, extension the time of study because of serious circumstances.⁶

8. Tax allowance

The tax relief reduces the final tax liability. The purpose of this tool is to compensate costs of adults that they made in connection with their further education. Tax relief can be constructed as deductions from the tax base or from the total tax liability in the form of tax rebates. The former method reduces the tax base of the recognized amount of deductible expenses, in the latter case, the relevant expenses is deducted from the calculated amount of tax. In the case that the amount of tax would be insufficient for deduction taxpayer can

⁶ *Processed with using information that are available at the website of European Training Village, CEDEFOP. Available at <http://www.cedefop.europa.eu/default.asp> and at Internet information portal of public administration of Great Britain, part of lifelong learning of the Ministry of Education of Great Britain. Available at <http://www.direct.gov.uk/en/EducationAndLearning/AdultLearning/index.htm>.*

acquire tax bonus. Direct reduction of calculated tax can represent for taxpayers simpler, more understandable form of tax support. The importance of tax allowance depends on the extent of the group tax deductible expenses and the determination of the amount of the possible deduction.

Group of deductible items can include a number of expenses:

- School-fees
- Examinations fees
- the cost of study material, transport, accommodation
- expenditure on the provision of childcare during a period of study
- loan interests for financing further education

The amount of the deduction may be determined as a percentage of the expenses or as full value of expenses. It is also possible to define the maximum annual amount that can be deducted. Tax allowance can also be applied to certain types of education (e.g. formal, staff education etc.) or extend to all types of adult education.

The advantage of this tool is its relatively easy implementation and administration through the existing tax system. But at the same time lower taxes mean lower revenues for public budgets. The seriousness of this disadvantage depends on the size of decline in public revenues due to the introduction of tax relief. It is possible that higher spending of individuals on educational services should enhance income of educational providers and thereby increase their tax levies. These higher tax payments should mitigate negative impact of lower learners' taxes. This tool may use only individuals with taxable income, when the higher the income, the better the benefit for individuals. This tool is not suitable for promotion of adults with low-income, unemployed and with low qualification. The possibility of additional reduction in tax liability does not provide direct financial support in the form of cash grant. The tool does not remove the immediate lack of resources and that is why at first adult must ensure sufficient means for financing education by them self. The tool offers subsequent support for the funding of educational needs.

In Netherlands adults can deduct from tax educational costs in the range of 500 - 15 000 Euros.

In Austria there is possible some of the costs of further education to deduct from the tax base. Adults can deduct the costs of educational activities that lead to acquire the knowledge needed for employment.⁷

9. Individual educational saving accounts

Educational accounts offer the opportunity to save money for financing costs of further education. Individual creation of financial resources can support contributions to individual saving accounts, interest rates subsidies, higher security of investment and the tax exemption of income from savings. In addition it is possible to promote the creation of in-

⁷ Processed with using information that is available at the website of European Training Village. CEDEFOP. <http://www.cedefop.europa.eu/default.asp>.

dividual savings by not counting these savings in the total family income which is used to evaluate family property for the purpose of deciding on entitlement to social benefits.

Additional contributions to individual savings may come from the public budgets or resources of employers offering financial support for training of their employees, trade unions and other branch and professional associations. The amount of these contributions can be provided as a fixed amount or a percentage of the saved amount. In addition contributions to saving accounts can be tax deductible for individuals and their employers. The final amount of funds on the account consists from money paid by individuals, additional contributions and interest income. The savings can be subsequently used only to finance the costs of further education which can include the price of courses, as well as the accompanying costs. These resources can be use to finance the reduction in income for the period of study. The institution on which account are money saved carry out the supervision of utilization of funds. The funds are released from the account after the submission of documents confirming the need of payment educational expenses.

The learning accounts increase financial responsibility of individuals for the creation of resources for the financing of the educational services. Attractiveness of system may be weakened by setting insufficient amount of additional contributions, especially in the case of higher individual savings. Longer time of savings needed for creation appropriate amount of funds is further disadvantage of saving accounts. Risk represents an assessment of the deposited funds that depends on the investment strategy and administrative costs of the institutions managing clients' funds. An obstacle may constitute insufficient own activity and interest of adults to set up and save resources for the purpose of education. The risk of misuse of saved funds requires control of utilization of resources. Saving accounts are better accessible to adults with higher income. Adults with low income do not have enough available funds for creating such savings. This is next weakness of the tool.

In the Netherlands the individual learning accounts were tested in the research project whose aim was to determine the impact of these accounts to training activity of employees and their position on the labor market. Scientifically valid conclusions should provide a comparison between 1 000 staff using educational accounts (experimental group) with 1 000 employees without access to these accounts (control group). Research was realized in cooperation with the education and development funds from the five sectors. Each employee received for participation in the project 125 €. Workers who were selected as recipients of educational accounts received on their accounts 1 000 € (500 € from the government and 500 € from the educational fund). The funds had to be used to educational activities improving position of adults on the labor market. The contributions from organizations or branch training fund supplement government resources, payment of individual participants are very low and are tax deductible. Payment to educational institutions is made after registration of a participant into the course (at the beginning of education), in some cases funds are paid directly to participants (in cash or in the form of vouchers).⁸

8 Processed with using information that is available at the website of the Ministry of Education, Culture and Science of Netherlands. Available at <http://www.minocw.nl/>

10. Paid study leaves

Right of employees to paid study leave guarantees providing financial security during the time of study and the preservation of employment after returning from training. This right may be stipulated in national legislation and provides the same protection to all employees for a period of further education. If this right is the subject of collective agreements the specific provisions will be valid only for members of the parties that concluded these agreements.

The provision of paid study leaves is undoubtedly a strong motive for starting further education. Compensation of lower income during the time spent out of work because of study means a substantial financial assistance for learners. Employers primarily pay this financial support. Payment of wage costs of workers on study leaves may be directly supported by public funds or indirectly in the form of tax relief for employers (they should deduct wage costs of learners, not pay health and social insurance for those employees). Another resource for financing wages of learners presents educational fund (see details below in chapter devoted to this instrument).

Entitlement to study leave may be automatic or there can be set some conditions. Frequently it is required a certain period of employment or a minimum duration of employment at one employer, employer's agreement with study leave. Study leave may be used to study any general educational courses or only selected professionally-oriented courses. The question is the determination of sufficient length of leave that allows the study longer courses and the extent of income compensation (full or partial). The paid study leave brings disadvantage especially to employers in the form of an increase in labor costs. Employers have to pay wage costs of employees out of work and at the same time they pay wages to supplementary person that replaced learner. In this case, it can be used concept of job rotation when the position of learner is temporarily replaced by the unemployed person whose employment is supported from the programs of employment. Thus the employer receives a favorable compensation for learner and job-seeker has an opportunity to gain employment and acquire new work experiences.

In Finland an employee has entitlement to study leave if his full-time employment at one employer lasts at least one year. The maximum length of leave is 2 years during the five years of employment at one employer. During study leave contract of employment remains valid but learner does not get the salary. Student has right to study grants.

In Finland there exists job alternative leave. This tool allows to employees long-term leave and at the same time it provides to unemployed persons opportunities of temporary employment. Condition of this tool is replacement of learner by registered unemployed person. Priority is given to the unemployed persons under 25 years old, long-term unemployed, graduates and school-leavers of vocational training. Next condition is the duration of employment of at least 10 years and just before the holiday the employee must be employed at one employer for at least 1 year. The range of leave duration is from 90 to 359 days. During the period of leave the amount of payment corresponds to 70 % of the daily unemployed benefits to which the individual would be entitled if he were unemployed. In the case that the employee has worked 25 years the amount is 80 %.

In Sweden the workers of full-time study have the statutory entitlement to study leave.

In Austria in the private sector employees may agree with the employer on the study leave. Its duration is at least 3 months and a maximum of 12 months. Employees get wage replacement payments from labor office during the period of leave. Employees older than 45 years receive during a period of leave income in amount similar to unemployment benefits. Conditions of study leave include evidence of staff participation in training for a specified period, duration of employment at one employer at least 3 years and not getting other financial compensation by employer.⁹

11. Free courses offer

The educational fees paid by adult learners are one of the important items in the total educational costs. Substitution of these costs in the form of free access to the training courses will offer favorable opportunities for adults. Offer of free courses but at the same time does not mean zero training costs for individuals. In conjunction with education there remain a number of other expenditures that have to be necessary paid (study material, cost of transport, accommodation etc.).

Advantage of this tool can be seen in easier access of educational opportunities to a wider group of adults, particularly to people with lower-income. The disadvantage of the instrument is again the financial burden of public funds from which the financial support is paid. Some free courses may provide non-profit, volunteer organization too. Due to the increased financial costs it may be assumed that this free offer will be aimed at defined target group.

In the UK there are offered courses teaching basic skills free of charge and there is available counseling for improving basic skills that includes searching suitable course too. For the purpose of supporting the reading among the inhabitants there was introduced the project "Fast reading" in the year 2006. Books of the most authors were published in the small pocket form. Books are sold in ordinary shops, bookstores and libraries. Citizens can obtain special voucher for paying the price of books. Free reading and writing courses offer the top football clubs. Focus of educational courses is connected with the activities of football and citizens can practice their skills such as writing reports from the match, reading comments on the matches, creating contracts of transfer, negotiation about severance payments and monitoring league tables. For example the football clubs providing these courses are Manchester United, Liverpool, Everton and Carlton Athletic.¹⁰

12. Ensuring or extending the range of additional services

This tool represents support of adequate and affordable supply of services for adult learners that help them to secure daily activities. In particular, it is necessary to adapt the

⁹ Processed with using information that is available at the website of European Training Village. CEDEFOP. <http://www.cedefop.europa.eu/default.asp>.

¹⁰ Processed with using information that is available at Internet information portal of public administration of Great Britain, part of lifelong learning of the Ministry of Education of Great Britain. Available at <http://www.direct.gov.uk/en/EducationAndLearning/AdultLearning/index.htm>

services of childcare to needs of adult learners. Opening hours of these facilities could be suited to timetable of courses and the prices of these services should be acceptable.

This support usually falls among the competence of lower administrative body and between the activities of non-profit, voluntary organizations.

Advantage of tool presents assistance and facilitation of family duties. At the same time detection of the adults' needs and subsequent creation of the relevant services require a certain time and financial costs.

In Sweden the services of centers for children may use learning adults under the same conditions as if they were employed. In some cases municipalities establish their own special centers for children of learning parents.¹¹

The presented instruments get financial power to adults who decide about buying educational services. Financial aid can be provided in different moment. The support can be paid before the starting course, after registration in the course, during the training at a fixed period, at the end of the course or after successful completion of the course. For each method there can be found advantages and disadvantages of its application. The payment in advance or during the study brings to adults security of funds. On the other hand provider of support has to secure effective control of spending of funds. Payment of support after the end of the study reinforces the responsibility of adult and effort at the successful completion of training. But in this case the fear of study failure may lower interest in education or adults can prefer less demanding educational activities. Such behavior but does not contribute to the developing knowledge of adults.

Finally should be stressed that the financial instruments themselves do not make anyone learn. The most important role belongs to the individual motivation and his interest which is influenced by a number of factors (affordability of educational services, time for study, teaching methods, etc.). Financial support can help to adults facilitate educational activities but it can not be considered as definitive solutions. If adults were still resistant to education and unwilling to learn, neither free courses nor high subsidies would force them to further education. There may be also unbelief about the effect of education that was started because of possibility of acquisition the financial support. Solution should be seen in the internal motivation of adults. It should be still in mind that in addition to the above characterized financial aid there are other variables that significantly affect the adults' attitudes and their interest in education.

2.2 Demand-side support of employers

1. Tax deductible educational costs
2. Tax advantage
3. Privileged access to external financial resources

¹¹ Processed with using information that is available at the website of European Training Village. CEDEFOP. <http://www.cedefop.europa.eu/default.asp>

4. Support the creation of corporate resources for education
5. Subsidy of educational costs
6. Free human resources development consultancy

1. Tax deductible educational costs

The measure allows employer to include the cost of education among other costs expended in connection with his business. Employer has the possibility of reimbursement of training costs by reducing the tax base. If there is no possibility of deducting the cost of education these expenses are paid after taxation and therefore the employer tax liability is higher. The significance of instruments depends primarily on the scale of the expenditure that may be included among the tax deductible expenses. For example between deductible costs there can be included price of courses, the cost of study material, equipment, transport or financial support for related services. At the same time, it is necessary to define the educational activities whose assurance it is tax deductible. It is important to determine whether the tax deductible costs include expenditure on all educational activities funded by the employer or only some one (external, internal, formal, non-formal education, specific training exclusively associated with the job, acquiring general knowledge and skills, etc.). On the contrary, it does not seem appropriate to allow deduction of the wages costs of learners since this could lead to give the preference to better skilled workers with higher incomes and larger tax deductions for the employer.

Advantage of this tool represents the simplicity of its implementation and administration through an existing tax system. On the other hand, tool lowers tax revenues of public budget. Tool also does not solve the need of the cash assets for immediate payment of educational expenses because these expenses are deducted after their paying. In the time of education the employer has to ensure sufficient financial resources.

2. Tax advantage

This tool provides to employers possibility of further reducing the tax base or the final tax liability. Additional deduction of employer's expenditures on educational activities can be defined in several ways such as:

- a percentage of paid costs,
- lump sum per learning employee,
- additional deductions for training of staff from the risk groups in the labor market.

For functioning of this instrument it is necessary to define deductible costs, their amount, purpose of supported education (general, related to job performance) and types of courses (accredited, non-accredited). In the case of risk groups of employees in the labour market or employees with disadvantageous access to educational services it can be introduced additional preferential allowance for employers. Unlike in the previous measures allowance is deducted separately from profit before it taxation or subsequent from the amount of calculated tax.

The advantages and disadvantages are similar as in the previous case.

In the case that employer can not take advantage of a deduction from tax base due to insufficient level of profit the measure can be supplemented by a tax bonus. This bonus is called a negative tax. If after deduction of costs from tax based the tax liability is negative the employer does not pay the tax and vice versa he gets the payment from public budget. It is expected that the tax advantage of further reducing the tax liability would encourage employers to train their own employees rather than to find new - appropriately skilled – workforce. Processes of finding and hiring of new employees are also associated with additional costs but not tax deductible.

At the same time it is needed to ensure that the introduction of tax exemptions does not cause a reduction in clarity of the tax laws and increase in the employers' administrative costs. Despite of the possibility to deduct the costs from the tax base there is still necessary to ensure cash funds for paying the costs of education. The tool does not provide direct funding. The expenses are deductible after the payment of costs.

A combination of both tools (tax deductible costs, tax advantage) provides possibility to include educational costs among accounting costs and deduct a certain percentage of the educational expenditure from the tax base or the final amount of taxes. The support could be multiple and more incentive.

In the Netherlands employers can reduce taxes and social insurance payments as compensation for the costs of education of staffs who subsequently receive primary education.

In Austria there are two kinds of tax allowance that should encourage business expenditure on continuing vocational training. Employers can use 20 % extraordinary deduction of educational expenses from the profit. This support includes both forms of corporate training (internal and external). The second option is tax credit. This tool can use companies that do not reach the necessary level of profit and they can not use first tool. These companies can require a tax credit of 6 % of real expenditure.¹²

3. Privileged access to external financial resources

Favorable conditions of access to external resources would improve their availability for employers. Due to the nature of investment in educational employer can not guaranteed income to financial institutions when he wanted to borrow funds for educational purposes as in the case of other investment in fixed assets. It is therefore necessary to offset the reluctance of banks to finance these investments. Support can be provided in the form a state guarantees or favorable interest rates.

In addition, this group of tools includes support programs aimed at developing training in enterprises. In particular the public budgets bear the costs of this measures, in some cases international financial resources can be used.

Supporting tools can be defined for different target groups that face to insufficient resources for security corporate training. The main advantage of this tool is better access to

¹² Processed with using information that is available at the website of European Training Village. CEDEFOP. <http://www.cedefop.europa.eu/default.asp>.

additional funds. On the other hand, the introduction of instruments will lead to increased pressure on public budgets. Next disadvantage presents a risk of insolvency of debtors.

4. Support the creation of corporate resources for education

The measure focus on stimulating the creation of own corporate resources for education. Additional resources for financing further education of employees can be ensured by regular payments from employer. The total amount of these funds is then entirely used to finance further education of staff. Besides employer the payments can pay employees. Payments can be set as the voluntary or mandatory. Alternatively, payments can be mandatory for employers only if the voluntary corporate expenditures on training of staffs are under the minimum limit or the charges can be increase if the company does not utilize created funds for education.

Payments may flow to the specially created accounts. The right to dispose with these resources belongs to the enterprise. Payments may be sending to special educational fund and companies have possibility to affect purpose of utilization these resources. Payments into the fund can be defined as a voluntary or compulsory and promoted by contributions from public funds. The amount of contributions can depend on the amount of employer contributions, the number of training staff for a defined period, the amount of educational business expenditure or the amount of individual contributions of workers.

In the case of compulsory training levies all companies are involved in the financing of positive externalities which education brings. Next advantage is the opportunity to influence the utilization of resources according to criteria taking into account especially the quality of the courses. The creation of funds for predetermined purpose prevents the transfer of resources on other activities and provides a guarantee of regular security of funds for financing further education.

Establishing a functional system requires the establishment of separate legislation. At the same time the creation and operation of an educational fund require the additional costs. Risk is also the transfer of the financial burden - that due to the introduction of levies may increase for employers - into wages of employees.

5. Subsidy of educational costs

Grants from public funds for the implementation of staff training activities, for study equipment and personnel costs of lectors can represent direct support for employers. These tools can include a wage subsidies of learners and subsidies of wage costs of temporary staff that replace learners. These tools again increase the burden on public budget.

6. Free human resources development consultancy

Free consultancy offer help to identify specific training needs of staff and security relevant educational activities. Especially for smaller companies this measure represents a strong support. For many of these companies may not be the services of commercial entities affordable.

These free services may be financed from public funds, funds of professional associations or unions of employers. The advantage of this tool is possibility of individual solution of the employer's educational needs. On the other hand, the results of consultancy come after a certain period of time and use of these services is dependent on the employer's decision, its willingness and interest in education of the employees.

2.3 Demand-side support of other interest groups

1. Grants

Non profit or voluntary organizations have potential force to stimulate adult education. Their importance can be seen in encouraging adults to participate in education and providing educational events. These organizations can provide to adult information and financial assistance. The financial support of these organizations is significantly limited by their income level. The availability of opportunities to increase revenues represents a significant help in securing the funds for these organizations. This support includes the financial resources provided from a number of development programs financed from public funds or foreign aid programs.

The process of obtaining the funds is often associated with demanding administration. In some cases, applicant has to pay a part of required amount of funds. Applicant often may not be able to provide corresponding amount by own funds and thus this condition acts as serious obstacle.

2. Tax allowance

This support provides to non-profit and voluntary organizations more favorable conditions for carrying out their activities and ensuring the necessary funds. The purpose of this aid is not to cover the operating costs of these organizations. This form of support does not mean a direct expenditure from public budgets but loss of public income which - because of tax relief - will not be collected. In particular there can be the following tax allowances:

- tax exemptions, tax advantage of income of organizations, such as tax exemption from property, income
- tax breaks for donors; for example, if an individual gives a certain amount of money to organization, he can deduct all or part of this amount from his the tax base
- tax exemption of income provided by organizations to other subject; for example if the organization provides to individuals the means for paying tuition fees the recipient will not have to pay tax from this income

Advantage of this tool is financial support of the operation of organizations. On the other hand, reduction in tax revenue of the state budget represents disadvantage of this measures.

Because of maintaining transparency and clarity of text and the fact that some of the advantages and weaknesses of tools repeat it was omitted from their consistent repetition separately for each instrument in the text. Table 2 gives a detailed overview of advantages and disadvantages of each instrument defined above.

A frequent disadvantage occurring simultaneously in more above-mentioned instruments is deadweight costs. This disadvantage represents loss of support provided on educational activities that would be realized even if absence of support. For example, adults would receive support, even if their own financial resources were sufficient for paying the costs of further education or firms would receive support even though they realized educational activities without support. Then public support covers the less necessary body. This disadvantage repeats for a number of defined instruments that is why a summary explanation is given at the end of review of support tools.

The selection of suitable instrument of financial support depends on a number of criteria which in particular include availability, ease and speed of implementation and administration of tool and amount of associated financial burden on public budgets. At the same time, it is necessary to consider the risk of abuse of support and transaction security. Equally important is the aspect of user-friendly forms of selected support which is a prerequisite for rapid and smooth adoption of the tools by general public. After considering identified advantages and disadvantages it is simultaneously necessary to evaluate forms of support from these appointed criteria for the purpose of choice the particular tool. There is comparison of tools according to the most important selection criteria in the Table 3.

Table 2: Instruments of demand side financial support of adult education (part 1)

Demand-side support of individuals		
Instrument	Advantages	Disadvantages
Payments subsidies for educational courses	<ul style="list-style-type: none"> + individual responsibility for the selection of courses and personal development + choice of courses according to the needs of student + higher motivation to complete the course + reduction of educational costs for students + quality regulation of educational services + improvement of information and counseling network + pressure on the quality of educational services + support of competition among providers of education + the possibility of targeting the support 	<ul style="list-style-type: none"> - scarcity of resources for support - risk of lack of information about the educational offer needed for deciding of individuals - risk of lack of own resources needed for co-financing in the case of low-income groups - increase of the administrative burden - transfer risk in the case of cash - abuse risk of funds - greater security and control requirements on transactions with the payments
Support of other costs associated with education	<ul style="list-style-type: none"> + reduction of other costs related to the education 	<ul style="list-style-type: none"> - the higher costs for subjects providing supports
Compensation for reduction in income as a result of further study	<ul style="list-style-type: none"> + income support of learners 	<ul style="list-style-type: none"> - additional financial cost for employers
Support of the living costs during a period of study	<ul style="list-style-type: none"> + maintenance a standard of living during the period of study 	<ul style="list-style-type: none"> - a financial burden on public budgets
Educational vouchers	<ul style="list-style-type: none"> + easy system administration + support of competition among educational institutions + pressure on the quality of educational services + choice of educational opportunities in accordance with student preferences + individual responsibility for the selection of courses and personal development + higher motivation to complete the course + the possibility of targeting the support + prevention of the misuse of aid for other purposes + more transparent way of support provision + safety payment instrument, a higher degree of protection against alienation + regulation of quality of educational services + monitoring tool of utilization resources + effective use of public funds + improvement of information and counseling network + educational cost reduction for students + the possibility of reducing the financial demands on the public budgets + time, financial, administrative savings associated with management of system for public sector + long-term experience with the operation of tool + use of existing distribution networks guarantees the availability of support to all citizens + security of feedback 	<ul style="list-style-type: none"> - the risk of lower orientation in the educational offer and lower ability to evaluate its quality by individuals - management costs - risk of lack of own resources needed for co-financing in the case of low-income groups
Scholarships, grants	<ul style="list-style-type: none"> + payment of the majority of the costs of further education + the possibility of targeting the support 	<ul style="list-style-type: none"> - because of higher financial costs support is defined for limited group of recipients - increase in the administrative burden - demanding process of applications
Study loans	<ul style="list-style-type: none"> + access to funds for financing longer-term studies and associated costs + support of competition among providers of education + pressure on the quality of educational services + choice of educational opportunities in accordance with student preferences + individual responsibility for the selection of courses and personal development + higher motivation to complete the course + the possibility of targeting the support + improvement of information and counseling networks 	<ul style="list-style-type: none"> - risk of financial insolvency of student - financial costs of the system - the risk of lower orientation in the educational offer and lower ability to evaluate its quality by individuals

Table 2: Instruments of demand side financial support of adult education (part 2)

Tax allowance	+ immediate introduction and easy administration of the tool within the framework of the existing tax system + the possibility of targeting the support	- reduction in tax income - accessible only for persons with taxable income - lower benefits for low-income group - greater demands on the knowledge of citizens in the area of taxation issues - the need to ensure own cash funds for direct payment of educational services - the risk of misuse of tax allowances
Individual educational saving accounts	+ support of individual responsibility for securing funds for financing education + individual responsibility for the selection of courses and personal development + choice of courses according to the needs of student + higher motivation to complete the course + quality control + improvement of information and counseling networks + pressure on the quality of educational services	- longer time of savings needed to ensure a sufficient amount of funds - problems of assessment of deposited funds - creation of resources depends on activities and interests of individuals - more accessible to individuals with higher incomes - the risk of unwanted utilization of saving accounts for appreciation funds that are not create for the purpose of financing education in future - necessity of legislative change
Paid study leaves	+ maintenance of employment after graduation + security of income during the period of study + during the time of temporary absence of learners it is possible to give work to unemployed persons	- higher wage cost for employers
Free courses offer	+ better accessible of education to wider group of adults	- a significant burden on public resources
Ensuring or extending the range of additional services	+ help to harmonize study with work and daily responsibilities of adult	- necessity to identify adults' needs for the purpose of their ensuring
Demand-side support of employers		
Instrument	Advantages	Disadvantages
Tax deductible educational costs	+ immediate introduction and easy administration of the tool within the framework of the existing tax system + reduction in tax liability of employers + the possibility of targeting the support	- lower tax revenues for public budget - the need to ensure funds for direct cash payment of educational fees - risk of increase in amount of tax legislation and reduction in its clarity - the risk of limited transparency of the system
Tax advantage	+ immediate introduction and easy administration of the tool within the framework of the existing tax system + reduction in tax liability of employers + in the case of insufficient income the possibility of tax bonus + the possibility of targeting the support	- lower tax revenues for public budget - the need to ensure funds for direct cash payment of educational fees - risk of increase in amount of tax legislation and reduction in its clarity - the risk of limited transparency of the system
Privileged access to external financial resources	+ easier access to external resources + the possibility of targeting the support	- burden on public budgets - risk of financial insolvency of companies
Support the creation of corporate resources for education	+ in the case of obligatory payments all employers share the cost of positive externalities of education + lower risk of loss of corporate investment in employees' training + selection of educational activities according to the needs of employers + the impossibility to use funds for other purposes than education + regular security of funds for further education + promotion the responsibility of the employer for the knowledge development of workforce + pressure on the quality of educational services + quality regulation of educational services + support the competition among providers of education + improvement of information and counseling networks	- the necessity of separate legislation - the cost of establishing and operating the fund - increase the risk of the financial burden of employers that can be transferred into wages
Subsidy of educational costs	+ reduction in employers' training costs	- burden on public budgets
Free human resources development consultancy	+ satisfaction of employers' individual needs	- the results achieved after a longer period of time - utilization of tool depends on the willingness and interest of employers - financial burden on entities providing support
Demand-side support of other interest groups		
Instrument	Advantages	Disadvantages
Grants	+ additional funds to own financial resources	- demanding administration associated with obtaining and using grants - obligation of co-financing
Tax allowance	+ favorable conditions for business	- reduction in public income

Source: author

Table 3: Forms of financial support according to the selection criteria

Criteria	Accessibility of support to the wide target group	Speed of implementation of tool	Administrative costs of public budget	Risk of abuse	Transaction safety	User-friendly form of support
Demand-side support of individuals						
Payments subsidies for educational courses	yes	shorter time	higher	higher	low	higher
Support of other costs associated with education	yes	shorter time	higher	higher	low	higher
Compensation for reduction in income as a result of further study	only persons with an income	shorter time	higher	low	high	high
Support of the living costs during a period of study	yes	shorter time	higher	higher	lower	higher
Educational vouchers	yes	shorter time	lower (in the case of system management by external body)	low	high	high
Scholarships, grants	yes	longer time	higher	lower	higher	lower (demanding application process)
Study loans	less suitable for low-income group	longer time	lower (in the case of management by external body)	lower	high	lower (demanding application process)
Tax allowance	less suitable for low-income group (insufficient tax support)	immediately	low	lower	high	lower (necessity of knowledge of the tax legislation)
Individual educational saving accounts	less suitable for low-income group	longer time	lower (in the case of management by external body)	lower	high	lower (necessity of individual's saving activity)
Paid study leaves	only for employed persons	shorter time	higher	low	high	high
Free courses offer	yes	shorter time	high	low	high	high
Free courses offer	yes	shorter time	high	low	high	high
Ensuring or extending the range of additional services	yes	shorter time	lower	low	high	high
Free courses offer	yes	shorter time	high	low	high	high
Demand-side support of employers						
Tax deductible educational costs	yes	immediately	low	lower	high	lower (necessity of knowledge of the tax legislation)
Tax advantage	in dependence on the amount of income	immediately	low	lower	high	lower (necessity of knowledge of the tax legislation)
Privileged access to external financial resources	yes	shorter time	higher	higher	lower	more demanding administration
Support the creation of corporate resources for education	yes	longer time	lower (in the case of management by external body)	lower	high	lower (necessity of individual's saving activity)
Subsidy of educational costs	yes	shorter time	higher	higher	low	higher
Free human resources development consultancy	yes	shorter time	higher	low	high	high
Demand-side support of other interest groups						
Grants	yes	shorter time	higher	higher	lower	higher
Tax allowance	in dependence on the amount of income	immediately	low	lower	high	lower (necessity of knowledge of the tax legislation)

Source: author

The final choice of instruments and the creation of their particular form depend on the conditions and needs of the society. The group of tools represents possibilities for choice the most appropriate form of financial support whose concrete form depends on specific circumstances of the problem situation.

It is necessary to finally note that this essay is devoted to only one area of the wide range of tools that may stimulate educational activities. The solution of the low participation of adults in education does not rest only in elimination of financial obstacles of adult learners. There are other major factors reducing their motivation to continue in education. In addition to financial support instruments there are also essential non-financial measures aimed to reduce or eliminate the time and information barriers of adult education. These are mainly alternative methods of adult education, high-quality information system and consulting services. Analysis of these measures already exceeds thematic intent of this paper. At least for illustration, the following chart briefly illustrates the basic classification of the all supportive measures. Highlighting part in the scheme represents the area at which this paper has been aimed.

Supportive measures

I. Financial support

it solves the shortage of financial resources

A. Supplied side oriented support

B. Demand side oriented support

The target groups:

- **individuals**
- **employers**
- **other interest groups**

II. Non-Financial support

it solves other non-financial obstacles, in particular the time and information barriers of adult education

A. alternative methods of adult education

- teaching methods adjusted to the needs of adult learners
- recognition of qualifications systems

B. high-quality information system

C. consulting services

Due to the required volume of papers the focus of this paper was narrowing only to defined part of the total group of incentive measures.

Conclusion

In addition to lack of time, the cost of education and the availability of the necessary funds are included among the critical factors of adult education. Motivation and participation in adult education depend on a number of factors but research projects dealing with the issues of the various obstacles that discourage from the education point to the same

group of these causes. Financial reasons take the front places in the rank of "most serious" limitation.

The financial framework of continuing education would also include effective tools which remove or at least alleviate the impacts of individual budget constraints. There are a number of methods which should support greater participation of adults in educational activities. Support measures may have very diverse forms that include for example the tax allowance, subsidy of saving accounts, loans, vouchers, free courses. The range of support depends on the extent of public budgets and their involvement in the funding of further education.

Despite of the considerable amount of existing tools it is not possible to automatically introduce the measures without knowledge about their main advantages and disadvantages as well as the consequences of their implementation. The elaboration of the detailed analysis of individual instruments was the aim of presented paper. This paper aimed at the identification and assessment of existing financial instruments focused on demand side of educational market. With operation of each support there are associated benefits and risks. Clear recommendation for the selection of the concrete and the best tools can be made only on the basis of knowledge and assessment of particular situation.

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Information Security in Small and Medium-Sized Companies

Bezpečnost informací v malých a středních firmách

DAVID KRÁL

Abstract

Information security doesn't involve only large organizations. Small and medium-sized companies must closely examine this issue too, because they are increasingly threatened by cyber attacks. Many of them mistakenly believe, that security of their valuable data is sufficient, or that the attackers are not interested in them. Existing standards and methodologies for implementation and management of information security are often hard to transfer to the environment of small and medium-sized businesses, because these companies do not want, or are not able to observe a large bounty of prescribed procedures and regulations related to certification standards. The article offers a methodology of balanced information security for small and medium-sized businesses. It describes important areas of information security and defines the basic criteria for assessing the security quality of each of the key areas.

Keywords

information security, small and medium-sized businesses, risk management, key assets, security of processes, human resources, security incidents.

Abstrakt

Bezpečnost informací se netýká pouze velkých organizací. Také malé a střední firmy se musí touto problematikou intenzivně zabývat, protože se stále častěji stávají terčem kybernetických útoků. Mnohé se mylně domnívají, že zabezpečení jejich cenných dat je dostatečné, nebo že se o ně útočníci nezajímají. Stávající standardy a metodologie pro zavádění a řízení informační bezpečnosti není často možné jednoduše aplikovat do prostředí malých a středních firem, protože tyto firmy nechtějí, nebo nejsou schopné dodržovat velké kvantum předepsaných procedur a předpisů spojených s certifikací normy. Článek nabízí metodiku vyvážené informační bezpečnosti pro malé a střední firmy. Popisuje důležité oblasti informační bezpečnosti a definuje základní kritéria pro posouzení kvality zabezpečení každé z klíčových oblastí.

Klíčová slova

bezpečnost informací, malé a střední firmy, analýza rizik, klíčová aktiva, bezpečnost procesů, lidské zdroje, bezpečnostní incidenty

Introduction

Quality security of sensitive data and key assets becomes now a question of absolute necessity for a company of any size and orientation. History of evolution of information security began particularly in environment of large organizations that processed a large amount of data. It is logical that it was larger and richer companies which often have sufficient resources to invest in the security of their assets. Moreover, relatively large percentage of small and medium-sized businesses has about the security of its information somehow faulty ideas. As stated in the survey of McAfee's 2008¹, more than half of the 1100 respondents of companies from the U.S. and European small and medium-sized companies think, that only large organizations can be targets of cyber attacks. The opposite is true. More and more attackers are focusing on mid-sized organizations, which are insufficiently protected and they find it much easier to get to their sensitive data.

Information security in large companies is generally dealt with certification², which to some extent, guarantees a certain quality of security and ensures a certain consistency with other management systems of organization. Small and medium-sized companies are often preventing the implementation of certified standards. The reason is the fear of heavy formal administration, which is often required for certification, but is mainly for small businesses unnecessary and burdensome. For medium-sized organizations (50-200 employees), the certain administration associated with information security is a necessity. Employees, as in small businesses, are familiar with each other, but already there is a certain degree of anonymity, which may trigger the fact that some employees will not respect security procedures, especially if they are not precisely defined, and compliance will not be regularly checked. The certification is generally recommended for these organizations, but each company must be evaluated individually. It depends on several circumstances, whether the certification is appropriate for the organization or the establishment of their internal methodology for information security.

1 Balanced information security

Methodology of balanced information security, which is the subject of this article, is primarily proposed for small and medium-sized businesses. Its aim is to define the most important and absolutely necessary criteria for information security so that the system meets the requirements of a comprehensive solution of the issue. On the other hand, it seeks how to minimize the administrative burden for these organizations, which is, as mentioned above, one of the main reasons, why companies hold a negative attitude to the most widespread certifications.

An essential step in establishing of any system of information security is a risk analysis. Without identifying the key assets of the organization, determine threats and vulnerabilities that may adversely affect these assets and without setting the basic security policy, how will the company effectively protect its important assets, it is impossible to implement and manage an effective system of information security in the organization of any kind and size.

1 McAfee (2008).

2 e.g. ISO/IEC 27001 (2005).

The methodology is concerned with the definition of basic criteria for the protection of the main processes and technologies in the organization, including in particular the field of physical security, secure communications and access control.

The issue of human resources is considered as a key area. In many statistics there is indicated that a large percentage of security incidents and losses of sensitive data is being caused by intentional or unintentional human error factor.

If any security incident occurs, it is considered desirable, that losses, which occur as a result of any fault, were the least possible. In this case is appropriate, when security incident is quickly removed and that interested staff is more clever next time and is able to avoid it. The management of security incidents is concerned with these issues and it is also a part of the methodology.

Methodology considers it appropriate to take into account the extent of reliance on information and communication technologies when assessing the quality criteria of information security in organization.

If the information security of a company should be considered as a balanced one, it must hold true, that all circuits of the system are above an average level, and none of the monitored area has a significant vulnerability, that would significantly degrade the entire system (information security is at a level of its weakest point)³.

The whole process is divided in 5 steps, which analyze the current level of data security in the organization, changes are proposed in the non-secure areas. These changes are applied and then it is determined whether these changes contributed to the improvement of the system of information security of observed organization.

The phases of a balanced information security in a company:

1) Pre-audit of organization

The first step of the proposed methodology is to evaluate the existing information security of a company. It consists of evaluating the quality of information security solutions in key areas of information security system and determining the rate of dependence of the organization on information technologies.

2) Interpretation of the results found

On the basis of pre-audit the particular areas of information security are divided into three groups according to points obtained:

- insufficient protection,
- protection requiring improvements,
- adequate protection.

3) The proposed solution

If the protection is assessed as insufficient, a proposal for a complete change in approach to the area follows.

³ ANDERSON (2008).

If the protection is assessed as requiring improvements, the steps are proposed to enhance the efficiency of the information security area, while maintaining the existing policy. If the protection is assessed as adequate, it is not necessary to change existing one or introduce new security measures.

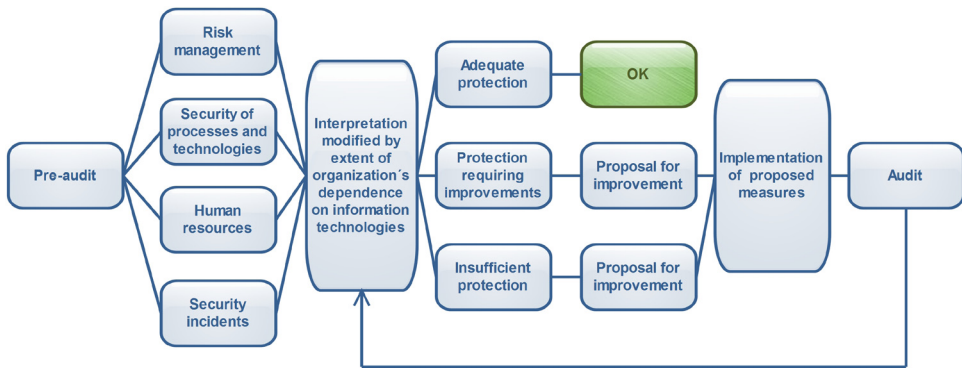
4) Implementation of the proposed solutions

The proposed measures are according to financial and time possibilities integrated into the organization's processes as soon as possible.

5) Audit

Re-audit of the quality of company's information security is conducted. Benefits of the newly introduced security measures are assessed. If the new interpretation of the results finds that some deficiencies have not been remedied, the new solution draft follows. The proposed approach is shown schematically in the following figure.

Figure 1: Methodology of a balanced information security



Source: own research.

2 Pre-audit of organization

Dependence of organization on information technologies

The first step in the process is to determine how the organization is dependent on information technologies. Determination of this dependence is very important, because a different level of security will be expected in the organization, which is more or less independent on the information technologies than in the organization, which is vitally dependent on these technologies.

Dependence is determined on the basis of the following criteria:

1. Annual budget (0 – less than 1 mil., 4 – more than 100 mil.)
2. Number of employees (0 – less than 20, 4 – more than 200)
3. Dependence on information and communication technologies to offer products and services to customers
4. Value of organization's intellectual property stored or transmitted in electronic form
5. Impact of information system downtime on operations

6. Impact to organization's operations from an Internet outage
7. Partner and customer sensitivity to security and privacy
8. Potential impact on reputation of a serious security incident
9. Extent of operations dependent upon third parties
10. Extent of sensitive data/property that may become a target of a violent physical or cyber attack

Each criterion is graded in the range 0-4 and the organization's dependence on information technologies is identified according to the following table:

Table 1: Dependence on information technologies

Rating/Criterion	Rating/Spread	Level
0	0-8	Very low
1	9-16	Low
2	17-24	Middle
3	25-32	High
4	33-40	Very high

Source: own research

Risk Management

The next step of the pre-audit is to assess various areas of organization's information security management. The first of these areas is risk management. It is observed what strategy for the information security is used. This area is considered as a key one, the appropriate protection requires implementing more criteria than in other areas of research.

The level of quality of this area is determined on the following criteria:

1. Does the organization formulated a document called information policy?
2. Was the risk analysis accomplished in the organization in the last 2 years to identify the assets that need protecting?
3. Does the organization use self specialist / qualified external company / special software for risk analysis?
4. Has the organization determined the relationship between key assets and processes depending on them?
5. Has the organization identified security threats associated with key assets?
6. Was the analysis of vulnerability accomplished, i.e. determining vulnerabilities that could be used by identified threats?
7. Is the loss of every key asset assessed in the organization?
8. Is the security strategy documented which establishes procedures to keep the risks to an acceptable level?
9. Is the security strategy documented which includes plans for the future to reduce the risks associated with key assets?
10. Is this strategy updated at least once a year?

Each criterion is graded on a scale of 0-4 and a level of implementation is assigned - see Table 2.

Table 2: Risk management – the level of implementation

Rating	Level
0	Not implemented
1	Planned
2	Partially implemented
3	Just before implementation
4	Fully implemented

Source: own research.

Based on the results, the level of protection of this area is determined upon the previously identified dependence of the organization on the information technology as shown in the Table 3.

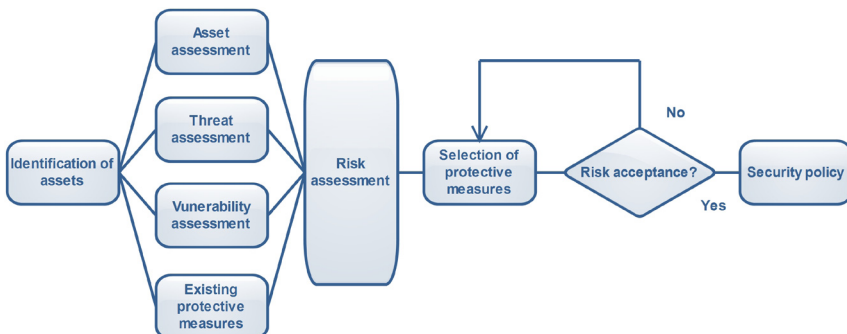
Table 3: Risk management - rating

Dependence on IT	Rating	Interpretation
Very low	0-13	insufficient protection
	14-23	protection requiring improvements
	24-40	adequate protection
Low	0-16	insufficient protection
	17-26	protection requiring improvements
	27-40	adequate protection
Middle	0-19	insufficient protection
	20-29	protection requiring improvements
	30-40	adequate protection
High	0-22	insufficient protection
	23-32	protection requiring improvements
	33-40	adequate protection
Very high	0-25	insufficient protection
	26-35	protection requiring improvements
	36-40	adequate protection

Source: own research.

The following diagram shows a possible procedure for the implementation of risk management system.

Figure 2: Risk management - diagram



Source: own research.

Security of processes and technologies

The next step in the organization's audit is the essential safety inspection of running processes and technologies related to information security. This includes in particular the field of physical security, secure communications and access control.

The level of this area is assessed by the following criteria:

1. Are spaces that contain equipment for the processing of information, protected by safety perimeters / barriers?
2. Are the organization's facilities, which contain sensitive information or equipment accessible only to authorized persons?
3. Is the organization protected against any external or natural threats, a power failure?
4. Are devices that process information, protected from power failure and from other forms of interruption caused by failures of support facilities?
5. Is there a procedure for the safe dismantling and disposal of assets after the authorization of the authorized person not allowing sensitive data to escape?
6. Are all stations in the organization sufficiently protected against malicious programs and codes?
7. Is there a regular and secure backup of data in the organization?
8. Are confidential, personal or sensitive data encrypted and associated encryption keys properly protected?
9. Are all the software and the exchange of information within the organization or in an exchange with external partners adequately protected?
10. Are contracts with organization's partners supplying products/services provided with a list of security measures and sanctions, if partners do not comply with these measures?
11. Are the activities of all users, exceptions, and events related to security of information stored in the information system of organization for a sufficiently long period of time?
12. Are found data analyzed and appropriate measures to eliminate errors adopted?
13. Is a clean desk policy and screens respected in the organization?
14. Is there a procedure for registering a user to the information system of the organization and the allocation of rights to access to the certain areas of information system?
15. Do all users of the information system have a unique identifier (ID) so that a responsibility for their actions can be traced?
16. Are all users forced by the system to create only so-called strong passwords?
17. Are special procedures applied in the case of remote authentication access to the organization's information system?
18. Are the ports for remote diagnostics and configuration securely protected?
19. Are all stations after a predetermined period of inactivity logout from the system?
20. Are there policies and procedures for safe work on mobile computing devices and equipment in the organization?

Each criterion is graded on a scale of 0-4 and a level of implementation is assigned - see Table 4.

Table 4: Security of processes and technologies – the level of implementation

Rating	Level
0	Not implemented
1	Planned
2	Partially implemented
3	Just before implementation
4	Fully implemented

Source: own research.

Based on the results, the level of protection of this area is determined upon the previously identified dependence of the organization on the information technology as shown in the Table 5.

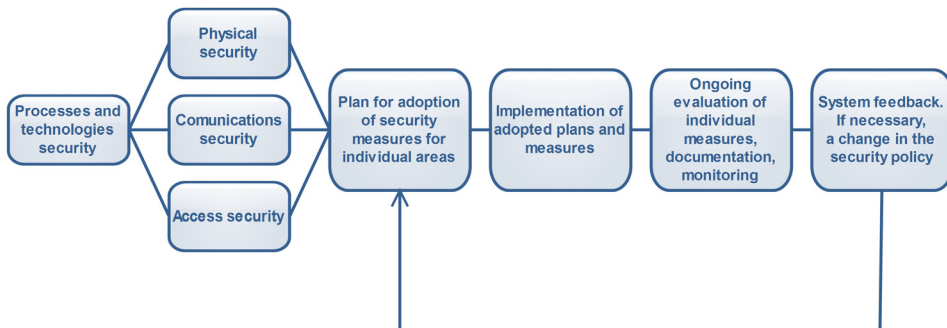
Table 5: Security of processes and technologies - rating

Dependence on IT	Rating	Interpretation
Very low	0-20	insufficient protection
	21-40	protection requiring improvements
	41-80	adequate protection
Low	0-26	insufficient protection
	27-49	protection requiring improvements
	50-80	adequate protection
Middle	0-34	insufficient protection
	35-57	protection requiring improvements
	58-80	adequate protection
High	0-42	insufficient protection
	43-63	protection requiring improvements
	64-80	adequate protection
Very high	0-50	insufficient protection
	51-67	protection requiring improvements
	68-80	adequate protection

Source: own research.

The following diagram shows a possible procedure for the implementation of processes and technologies security.

Figure 3: Security of processes and technologies - diagram



Source: own research.

Human resources

The human factor undoubtedly brings the highest risk for information security management. Various sources confirm that about 80% of all security incidents are caused by human error. At this stage is examined how the organization manages the area of human resources in the context of enforcing information security.

Quality level of this area is assessed on the basis of these criteria:

1. Is the person / service / external company defined in the organization, whose primary task is the management of information security?
2. Does this subject report periodically to the managers of the organization about observance of the rules and effectiveness of established security policy?
3. Does each employee have a clearly defined role and responsibilities within the security policy of the organization?
4. Is this responsibility included in the employment contracts of all employees?
5. Are the previous activities of applicants for employment reviewed in the organization in relation to their ability to work well with sensitive information they will be responsible for?
6. Are trainings for staff and users of third parties relating to information security policy regularly organized?
7. Does the organization have the disciplinary process for employees who have violated security policy and caused a security incident?
8. Is the responsibility for termination of employment or changing jobs clearly defined in the organization?
9. Is in the contract clearly defined, the employee is obliged to return all assets he/she could dispose with and was responsible for before the end of employment?
10. Are all access rights in the organization withdrawn automatically to all outgoing employees?

Each criterion is graded on a scale of 0-4 and a level of implementation is assigned - see Table 6.

Table 6: Human resources – the level of implementation

Rating	Level
0	Not implemented
1	Planned
2	Partially implemented
3	Just before implementation
4	Fully implemented

Based on the results, the level of protection of this area is determined upon the previously identified dependence of the organization on the information technology as shown in the Table 7.

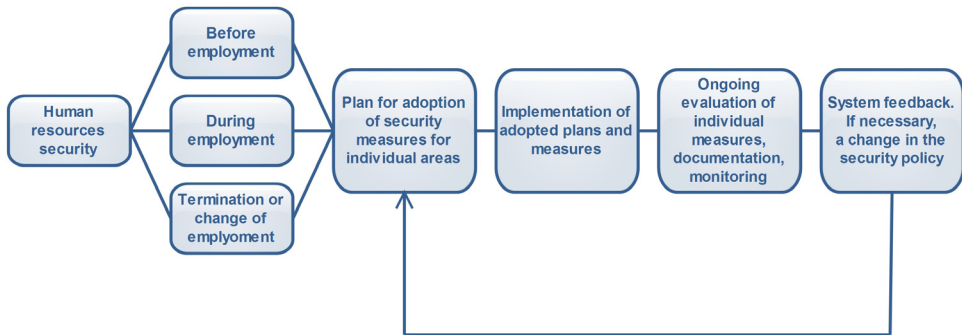
Table 7: Human resources security - rating

Dependence on IT	Rating	Interpretation
Very low	0-10	insufficient protection
	11-20	protection requiring improvements
	21-40	adequate protection
Low	0-13	insufficient protection
	14-24	protection requiring improvements
	25-40	adequate protection
Middle	0-17	insufficient protection
	18-28	protection requiring improvements
	29-40	adequate protection
High	0-21	insufficient protection
	22-31	protection requiring improvements
	32-40	adequate protection
Very high	0-25	insufficient protection
	26-33	protection requiring improvements
	34-40	adequate protection

Source: own research.

The following diagram shows a possible procedure for the implementation of human resources security.

Figure 4: Human resources security - diagram



Source: own research.

Security incidents

If the safety incident occurs in the organization in spite of all precautions, it is important to be unveiled as soon as possible and caused the minimum damage.

At this stage is determined what methodology the organizations uses to detect, identify and resolve security incidents.

The following criteria determine the quality of the security area:

1. Is there a company document that defines and classifies the potential security events and security incidents that may occur in the organization?
2. Are all employees required to report any observed vulnerability in the organization's information system, which could mean the creation of a security incident?
3. Are there regular trainings for all staff and participants of third parties in the organization, on which the level of safety awareness is increased to all participants?
4. Are all employees instructed how to report about a security incident to the responsible person / department in the organization after detecting it?
5. Are the responsibilities and procedures for the rapid resolution of a new incident clearly defined in the organization?
6. Are there mechanisms to quantify the types and extent of security incidents emerging in the organization?
7. Are there mechanisms for quantifying the costs incurred related to the removal of security incidents in the organization?
8. Is there an evidence of occurred security incidents collected and stored to be used by the criminal justice proceedings?
9. Are there risk scenarios in case of unexpected or intractable security incident?
10. Are security incidents regularly evaluated and the findings towards risk analysis or security incidents management accepted?

Each criterion is graded on a scale of 0-4 and a level of implementation is assigned - see Table 8.

Table 8: Security incidents – the level of implementation

Rating	Level
0	Not implemented
1	Planned
2	Partially implemented
3	Just before implementation
4	Fully implemented

Source: own research.

Based on the results, the level of protection of this area is determined upon the previously identified dependence of the organization on the information technology as shown in the Table 9.

Table 9: Security incidents - rating (part 1)

Dependence on IT	Rating	Interpretation
Very low	0-10	insufficient protection
	11-20	protection requiring improvements
	21-40	adequate protection
Low	0-13	insufficient protection
	14-24	protection requiring improvements
	25-40	adequate protection
Middle	0-17	insufficient protection
	18-28	protection requiring improvements
	29-40	adequate protection

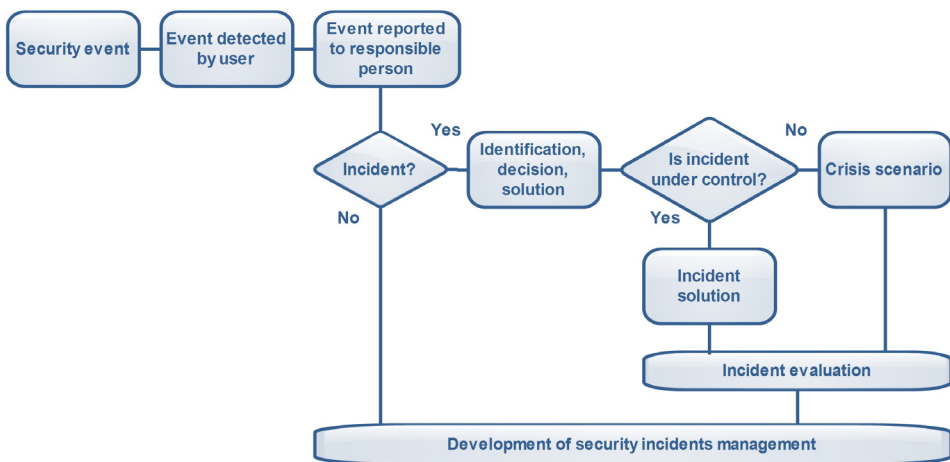
Table 9: Security incidents - rating (part 2)

Dependence on IT	Rating	Interpretation
High	0-21	insufficient protection
	22-31	protection requiring improvements
	32-40	adequate protection
Very high	0-25	insufficient protection
	26-33	protection requiring improvements
	34-40	adequate protection

Source: own research.

The following diagram shows a possible procedure for the implementation of human resources security.

Figure 5: Security incidents - diagram



Source: own research.

Conclusion

It is very difficult to develop a standard for information security management, which would suit the entire spectrum of organizations. Recently formed standards could meet a wide range of users, because they are more flexible and offer more space for the selection of measures applied. But I dare say that there will always be special cases, which will require special approach and these cases are much more likely to occur within small and medium-sized businesses. On the other hand, I think, it is possible to define the most important areas of information security, which should not be forgotten in the security policy of any organization. This article tries to describe these areas and also specifies the basic criteria in each of these areas. If they are applied, a sufficient level of security can be guaranteed and key assets of organization are adequately protected.

The methodology is a guide to analyze the quality of information security. If the audit of the organization indicates that some of the areas are not sufficiently secured, series of comprehensive measures to promote a more effective protection of the sphere, should

follow. Recommended management practices of key areas are outlined schematically. Their detailed analysis would have been beyond this article. This method should be useful especially for small and medium-sized businesses.

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Assessment of Consistency of the Czech Tax Law with European Union Law with a View to Non- Residents Taxation

Hodnocení souladnosti českého daňového práva s právem Evropské unie se zaměřením na zdaňování nerezidentů

KAREL BRYCHTA

Abstract

This paper is focused on assessment of consistency of the present Czech legal regulation with the European Union Law with a view to taxation of tax non-residents from other EU Member States, above all with a view to incomes from dependent activity (employment) and function benefits and from enterprise activities and other self-employed gainful activities. The introduction of the paper presents attributes which the Czech regulation shall satisfy in order it could be considered as consistent with the European Union Law. These attributes are deduced from the relevant ECJ case law. Subsequently the reader is making acquainted with some aspect of legal regulation of taxation of Czech Republic tax non-residents. The attention is above all granted to the description and assessment of the impacts of changes connected with an amendment of the Act on Income Taxes which has implemented a new regime of taxation for some incomes of tax non-residents from EU or EEA Member States who are at the same time tax residents of some of these States. In conclusion it is to observe that this amendment has significantly contributed to an advance in reaching consistency of the Czech legal regulation with the European Union Law that has been represented in the area in question above all by the ECJ case law.

The paper was produced with the financial support of GA ČR (Czech Science Foundation) as a part of grant-aided project No. 402/09/P469 – Development and Competitiveness of the Czech Tax System in the Area of Taxation of Natural Persons Incomes.

Keywords

Czech act on income taxes, European Court of Justice, natural persons, non-resident, taxation

Abstrakt

Tento příspěvek se zaměřuje na zhodnocení souladnosti současné české právní úpravy zdaňování daňových nerezidentů z jiných členských států EU s právem Evropské unie a to zejména pro příjmy ze závislé činnosti a funkčních požitků a příjmy z podnikání a jiné samostatně výdělečné činnosti. V samotném úvodu jsou prezentovány atributy, které by

měla tuzemská úprava splňovat, aby bylo možné ji považovat za souladnou s právem Evropské unie. Uvedené atributy jsou odvozeny od směrodatné judikatury ESD. Následně jsou v základních rysech přiblíženy vybrané aspekty zdaňování daňových nerezidentů České republiky. Největší pozornost je věnována popisu a zhodnocení dopadů změn v souvislosti s novelou zákona o daních příjmů, kterou byl implementován nový režim zdaňování některých příjmů daňových nerezidentů z členských států EU a států EHP, kteří jsou zároveň daňovými rezidenty některého z těchto států. Závěrem lze konstatovat, že tato novela významně přispěla k dosažení větší souladnosti české právní úpravy s právem Evropské unie, které je v predmetné oblasti prezentováno především judikaturou ESD.

Príspevek vznikl za finanční podpory GA ČR jako dílčí výstup grantového projektu č. 402/09/P469 - Vývoj a konkurenceschopnost českého daňového systému z pohledu zdanění příjmů fyzických osob.

Klíčová slova

český zákon o daních z příjmů, Evropský soudní dvůr, fyzické osoby, nerezident, zdaňování

JEL classification

H24, H25, K34, P29

Introduction

Act No. 586/1992 Coll., on Income Taxes, as amended (hereinafter referred to as AIT) is the basic material-law standard regulating the taxation of tax non-residents in the Czech Republic. This act became effective on 01 January 1993 along with the foundation of the independent Czech Republic (hereinafter referred to as CR). Since AIT became effective, it has undergone a number of larger or smaller changes which also dealt with the issue of taxation of incomes of tax non-residents from sources in the CR.

The issues of taxation of tax non-residents are affected significantly also by the Conventions for Avoidance of Double Taxation (hereinafter referred to as CADT), the aim of which is to remove or eliminate international double taxation. The Czech Republic has currently over 70 such contracts concluded (Ministerstvo financí ČR, 2009) [Ministry of Finance CR]. In this connection it is useful to mention that the Czech Republic has concluded CADT with all Member States of the European Union (hereinafter referred to as EU). The application priority of CADT as international conventions does not only arise from AIT (Section 37), but directly from the supreme legal force standard, namely from Article 10 of Constitutional Act No. 1/1993 Coll., Constitution of the Czech Republic, as amended. In this respect there is a question of the compliance of these conventions with the Community Law (at present with the European Union Law)¹, which is another basic source of law in the Czech Republic. This issue was dealt with by a group of experts who have come to a conclusion that the situation in this respect is quite complicated with regard to the large number of conventions, which actually represents

1 *Since the European Union acquired legal personality by becoming the Lisbon Treaty valid, we now speak of the European Union Law instead of the Community Law.*

great obstructions and difficulties for taxpayers when fulfilling their basic freedoms arising from the Treaty Establishing the European Community² (European Commission, 2005).

The field of regulating direct taxes is, in particular, an expression of the sovereignty of individual Member States which have retained a larger rate of autonomy in this field. This, however, does not mean that the regulation in this area may be arbitrary. It is beyond any doubts that despite of the missing explicit regulation of taxation of incomes of natural persons adopted at the level of the European Community (now at the level of the European Union), to which, for example, Meussen refers (2004, p. 158), it is necessary to emend also this field in a certain way. The decisive role in this respect is played by the European Court of Justice (hereinafter referred to as ECJ), which plays the role of the so-called indirect harmonization (Šíroký, 2009, p. 27). The ECJ is an authority which ensures that when interpreting and applying the Treaty³, which in the Czech Republic as a Member State has priority to the national regulation, is observed.

The aim of this paper is to assess the compliance of the Czech current regulation (according to the state valid and operative as of 01 December 2009) in taxation of tax non-residents from other EU Member States with a view to natural person and, in particular to incomes from dependent activity (employment) and function benefits (Section 6 of AIT) and to incomes from enterprise and other self-employed gainful activities (Section 7 of AIT). Special attention is paid to an important amendment which substantially modifies the system of taxation of incomes acquired by tax non-residents from EU and having their source in the Czech Republic (Act No. 216/2009 Coll.).

The article has the following structure. The next chapter presents attributes which the Czech regulation shall satisfy in order it could be considered as consistent with the European Union Law. These attributes are deduced from the decisive ECJ case law represented by chosen ECJ rulings. The next chapter describes the system of taxation of tax non-residents in the CR. Then the readers are acquainted with the relevant provisions of Act No. 216/2009 Coll., which have significantly corrected the system of taxation of the selected types of incomes gained from sources in the CR by tax residents of other Member States of the European Union (EU) and of the States of the European Economic Area (hereinafter referred to as EEA⁴). The impact of changes introduced by the above-mentioned amendment of AIT is presented on a model example for the mentioned group of taxpayers. The final chapter assesses the compliance of the current Czech legal regulation with the European Union Law or more precisely with the selected ECJ case law, which is, due to

2 *Since the Lisbon Treaty became valid on 01 December 2009 the Treaty establishing the European Community becomes the Treaty on the Functioning of the European Union. Note: * Due to the fact that on the date of finishing this paper there was not available consolidated version of the Treaty on European Union and Treaty on Functioning of the European Union as amended by the latest version of the Lisbon Treaty, a version available in the Official Journal of the European Union 2008/C 115 was used.*

3 *It used to be regulated by Article 220 et seq. of the Treaty establishing the European Community; since becoming the Lisbon Treaty effective the functioning and role of the ECJ is newly regulated by Article 19 of the Treaty on the European Union.*

4 *The EEA includes, on top of the European Union Member States, also Iceland, Liechtenstein and Norway.*

an absence of a binding legal regulation at the level of the European Union, a standard guideline for the issue in question.

1 Attributes of Consistency with European Union Law

At the very beginning we start with the definition of tax residents and non-residents according to AIT. As to the natural persons is concerned, the definition is provided in the Section 2 of AIT. Tax non-residents (in the words of AIT: a person having a tax liability related only to incomes from sources in the territory of the Czech Republic) are those whose permanent residence is not in the CR and who usually do not stay in the CR or those specified so by an international convention. The latter has a relation particularly to the existing CADTs and their Article 4 designated as Resident or in older conventions as Tax domicile. This article of the CADT determines the basic general criteria of tax residence⁵, but also it prevents that a taxpayer is regarded as a tax resident in both respective contracting States. If such a situation happened and according to both national regulations the taxpayer was regarded as a tax resident, owing to the application of criteria set as a standard in Article 4 of the respective CADT, only one of the States will be determined as the State of tax residence while in the other State the taxpayer's status will be the status of tax non-resident.

Apart from that, Section 2 paragraph 3 of AIT contains a special regime of tax non-residence. It is a natural exception, or better to say exceptions. If a taxpayer only stays in the Czech Republic for the purpose of a study or treatment, he is regarded as a tax non-resident and his tax liability relates only to incomes from sources in the CR. Individual criteria are detailed in both Section 2 of the AIT and the Instruction D-300 for the uniform procedure in applying some provisions of the AIT.

The European Union Law in this respect, i. e. in setting of tax residency criteria, plays no role so that there is given a discretion for the Member States limited by the general criteria stated in relevant concluded CADT. On the contrary the European Union Law is affecting other aspects relating taxation of tax non-residents in case they are at the same time nationals of, and reside in, an EU Member State.

1.1 ECJ Case Law

Since 1 May 2004, the Czech Republic has been a Member of the European Union, which is built on a certain policy the aim of which is the actual realization of four basic freedoms – a free movement of goods, people, services, and capital. This fact takes effect substantially in the requirements placed on legislative regulations not only at the level of the European Union (previously European Community), but also it affects directly national legislations of the Member States because by their accession the Member States committed themselves to adhere to *acquis communautaire*. Even if there are no directly explicit provisions affecting the regulation of approach of the Member States to tax non-residents from other

⁵ *It usually covers criteria such as place of residence, permanent stay, a place of management, or any other similar criterion. Further specifications (concretizations) of the criteria are given by domestic regulation of the contractual States (i. e. States which concluded the CADT).*

Member States in the area of taxation of incomes from dependent activity (employment) and function benefits and from enterprise and other self-employed gainful activities, it does not mean that this area is not affected by the European Union Law. The proof of this is a number of judgments of the ECJ which deal with the area in question. Some rulings of the ECJ in relation to the area in question are stated below.

1.1.1 Case Schumacker

In the case Schumacker (Case C-279/93) the ECJ has observed that, *“Although direct taxation does not as such fall within the purview of the Community, the powers retained by the Member States must nevertheless be exercised consistently with Community law. Accordingly, Article 48⁶ of the Treaty must be interpreted as being capable of limiting the right of a Member State to lay down conditions concerning the liability to taxation of a national of another Member State and the manner in which tax is to be levied on the income received by him within its territory, since that article does not allow a Member State, as regards the collection of direct taxes, to treat a national of another Member State employed in the territory of the first State in the exercise of his right of freedom of movement less favourably than one of its own nationals in the same situation.”.*

The ECJ has further more observed that, *“Although Article 48 of the Treaty does not in principle preclude the application of rules of a Member State under which a non-resident working as an employed person in that Member State is taxed more heavily on his income than a resident in the same employment, the position is different in a case where the non-resident receives no significant income in the State of his residence and obtains the major part of his taxable income from an activity performed in the State of employment, with the result that the State of his residence is not in a position to grant him the benefits resulting from the taking into account of his personal and family circumstances. There is no objective difference between the situations of such a non-resident and a resident engaged in comparable employment such as to justify different treatment as regards the taking into account for taxation purposes of the taxpayer’s personal and family circumstances. It follows that Article 48 of the Treaty must be interpreted as precluding the application of rules of a Member State under which a worker who is a national of, and resides in, another Member State and is employed in the first State is taxed more heavily than a worker who resides in the first State and performs the same work there when the national of the second State obtains his income entirely or almost exclusively from the work performed in the first State and does not receive in the second State sufficient income to be subject to taxation there in a manner enabling his personal and family circumstances to be taken into account.”.*

The ECJ has concluded that, *“Article 48 of the Treaty must be interpreted as precluding legislation of a Member State on direct taxation under which the benefit of procedures such as annual adjustment of deductions at source in respect of wages tax and the assessment by the administration of the tax payable on remuneration from employment is available only to residents, thereby excluding natural persons who have no permanent residence or usual abode on its territory but receive income there from employment.”.*

6 After amendment Article 39 of the Treaty establishing the European Community. Since becoming the Lisbon Treaty effective Article 45 of the Treaty on Functioning of the European Union is involved.

1.1.2 Case Gschwind

The case Gschwind (Case C-391/97) related also to the issue of tax reliefs in connection with Article 48 of the Treaty establishing European Community. In this case the ECJ ruled that, *“Article 48(2) of the Treaty (now, after amendment, Article 39(2) EC) is to be interpreted as not precluding the application of national legislation under which resident married couples are granted tax benefits while, in the case of non-resident couples, such benefits are subject to the condition that at least 90% of total income be subject to tax in that Member State, failing which, if that percentage is not reached, income from foreign sources and not subject to tax in that State must not exceed a certain ceiling, the possibility being thus maintained for account to be taken of the couple’s personal and family circumstances in the State of residence. The fact that a Member State does not grant to a non-resident certain tax benefits which it grants to a resident is not, as a rule, discriminatory since, as regards direct taxation, those two categories of taxpayer are not in a comparable situation. Specifically, a non-resident married couple - one of whom works in the State of taxation in question and who may, owing to the existence of a sufficient tax base in the State of residence, have personal and family circumstances taken into account by its tax authorities - is not in a situation comparable to that of a resident married couple, even if one of the spouses works in another Member State.”*

1.1.3 Case Gerritse

The case Gerritse (Case C-234/01) related to the possibility to deduct business expenses. Hence, the ruling can also be considered as a very important one. The ECJ States in its ruling that, *“Article 59 of the Treaty (now, after amendment, Article 49 EC⁷) and Article 60 of the Treaty (now Article 50 EC⁸) preclude a national provision which, as a general rule, takes into account gross income when taxing non-residents, without deducting business expenses, whereas residents are taxed on their net income, after deduction of those expenses.”*

At the same time the ECJ has expressed to the issue of application of definitive tax at a uniform rate deducted at source as follows, *“Article 59 of the Treaty (now, after amendment, Article 49 EC) and Article 60 of the Treaty (now Article 50 EC) do not preclude a national provision which, as a general rule, subjects the income of non-residents to a definitive tax at the uniform rate of 25%, deducted at source, whilst the income of residents is taxed according to a progressive table including a tax-free allowance, provided that the rate of 25% is not higher than that which would actually be applied to the person concerned, in accordance with the progressive table, in respect of net income increased by an amount corresponding to the tax-free allowance.”*

1.2 Summary

The author thinks that with regards to the conclusions of the ECJ it can be summarized that the basis for reaching the compliance of domestic regulation with the European Un-

7 Article 56 of the Treaty on Functioning of the European Union.

8 Article 57 of the Treaty on Functioning of the European Union.

ion Law (previously with the Community Law) with a view to the taxation of incomes⁹ of Czech Republic tax non-resident from another EU Member States who is at the same time a national of, and resides in, another EU Member State includes, in general, two basic attributes:

1. To secure by law stated possibility for this group of taxpayers to deduct, in relation to the reached income, the relevant expenses provided that also the tax residents of the CR have this possibility (the opposite approach is, according to the author's opinion, in conflict with the basic supporting principle of the European Union, which is the principle of prohibition of discrimination), and
2. To enable this group of taxpayers from other Member States to apply, under adequate conditions, also tax reliefs (non-taxable parts of tax base, tax abatements and tax allowance) to which, as a standard, the tax residents of the CR are entitled.

Before carrying out of the assessment of the consistency of the Czech legal regulation for the tax area in question, there is presented a system of taxation of Czech non-residents according to AIT in the next chapter.

2 The system of tax collection from tax non-residents (natural persons)

The primary differences in the system of taxation of tax non-residents arise from whether he/she is a tax resident of a contracting or non-contracting State (i.e. the State with which the Czech Republic has or has not concluded CADT). Provided that it is a performance in favour of a contracting State's resident, the decisive criterion is the relevant provision of CADT. The relevant convention may set that only one State is entitled for taxation or, conversely, both States, i.e. the State of source (i.e. the CR) and the State of the taxpayer's tax residence. Before solving the method and amount of tax it is necessary to decide whether it is possible to tax a particular income in the CR according to the respective CADT. The following step should be an assessment whether it is an income from sources in the CR, i.e. whether it is an income listed in the enumerating list in Section 22 paragraph 1 of the AIT, according to which two basic categories of incomes can be identified. The first category represents incomes that are regarded as incomes of tax non-residents from sources in the CR regardless of from whom these incomes are gained (a classical example is incomes from activities performed in a permanent establishment, incomes from the sale and lease of real estate located in the CR). For this group of incomes it is not important whether they are gained from a tax resident or a tax non-resident in the Czech Republic or from a permanent establishment located in the Czech Republic. Conversely, incomes of non-residents from the other category are only regarded as incomes from sources in the Czech Republic provided that they are gained from tax residents of the Czech Republic or from permanent establishments of tax non-residents located in the Czech Republic (e.g. licence fees).

⁹ A necessary condition is that the income can be taxed in the territory of the Czech Republic according to relevant CADT and the same time it comes under incomes stated under Section 22 paragraph 1 of ITA (for more details see below).

Only if CADT enables to tax a particular income of a tax non-resident and at the same time it is an income from sources in the CR, it is possible to proceed to solving a particular tax liability and the form of its settlement. It is obvious that when solving the relationship to a tax non-resident of the Czech Republic from a non-contracting State, the first step, i.e. the assessment of the relevant provisions of CADT, is omitted.

In many respects, the legal regulation of taxation of incomes of tax non-residents is based on the decisive role of the payer – i.e. the entity that performs in favour of a tax non-resident. Basically, we can distinguish three methods of taxation of incomes of tax non-residents in the CR by which they are taxed:

- by a special tax rate (tax deducted at the source by the payer according to Section 36 of AIT),
- through a tax return with the possible previous securing of tax (the obligation to file a tax return of natural person incomes is regulated in Section 38g of the AIT, and the tax securing institute then in Section § 38e of the AIT),
- through withheld tax advances in the case of incomes from employment and function benefits (specified in Section 38h of the AIT).

Ad a) Taxation by a special tax rate

Taxation by a special tax rate is one of the frequently used institutes in relation to the tax liability of a taxpayer (tax non-resident) for incomes from sources in the CR. It is the payer's obligation – i.e. the entity that performs in favour of a tax non-resident – to withhold (deduct) and transfer withheld tax to tax administrator. In AIT, the withholding tax rate is currently uniform, except for one small exception, and it is 15%. The mentioned exception is the income from rent in the case of financial leasing with the subsequent purchase of the leased object for which the rate of 5% is set. However, the application preference of CADT must be followed as it may set a different rate. It will be applied only if the rate is lower than that stated in AIT. This fact is an expression of the principle that a taxpayer must not be subjected to a higher taxation than that stated in AIT. It must be noted that the tax rates stated in CADT are usually lower than those set in AIT. At this point the author notes that a taxpayer may make use of the advantages arising from the respective convention only if he/she is a resident of the respective contracting State and also he/she is the so-called real owner of income (i.e. he does not act only as an agent, etc.).

Basically, the withholding tax amount is calculated from gross income. The general rule is that by withholding this tax (i.e. the tax according to Section 36 of the AIT), the taxpayer's tax liability in relation to that income is assumed to be fulfilled. There are exceptions from this general rule, some of them were introduced in relation to tax non-residents in Act No. 216/2009 Coll. It implemented a new provision into Section 36 of AIT (namely its paragraph 7), which offers tax non-residents of the Czech Republic who are at the same time tax residents of some of the EU or EEA Member States a more advantageous tax regime (for this issue see a separate relating chapter).

Ad b) Taxation through a tax return with a possible previous securing of tax

From the view of the tax resident's obligation to file a tax return of natural person income, AIT does not distinguish between the taxpayer's tax status; it is based on uniformly stated conditions which are provided in Section 38g of the AIT. Under the conditions stated by law (see Section 38e of the AIT) the filing of a tax return is preceded by the securing of tax. The purpose of this institute is, as the name suggests, to secure the tax in relation to tax non-residents who usually do not have such close relations to the State of the source of the income. The obligation to secure tax is the obligation on the part of the income payer. The basic rate of tax securing is 10%. There are special tax rates for special cases. The rate of tax securing of 1% will be used for incomes from the sale of investment instruments and for incomes from payments of claims acquired by assignment. With regard to the above-mentioned focus of the contribution on the taxation of incomes of natural persons, it should be added that there is another tax securing rate, in the amount of the natural person income tax rate (i.e. in the amount according to Section 16 of the AIT), which is applied from the share in the tax base of the partner of a co-partnership or the general partner of a special limited partnership who is a natural person (tax non-resident of the CR).

However, a large number of incomes of tax non-residents are excluded from the securing of tax. They include the following types of incomes:

- Incomes of tax non-residents which are subject to a special tax rate (a logical provision, taxation has been made, but in a different form),
- Incomes from employment and function benefits, when the tax advance is withheld according to Section 38h of the AIT,
- Payments for goods or services made in a retail shop where the vendor is a tax non-resident,
- Payment of rent paid by natural persons for residential rooms used for living and related activities, and
- Payment in favour of tax residents of the EU or EEA Member States.

The obligation to secure tax is the obligation of the payer, i.e. the entity that performs in favour of a tax non-resident. As a standard, this amount acts as a tax advance, i.e. if a tax non-resident of the CR files a tax return, he will credit the withheld amount of tax securing against his tax liability. So it is the taxpayer's interest to file a tax return. The advantages of filing a tax return in this case are quite obvious for a number of cases as the tax securing is again made from the gross amount.

In the filed tax return, the taxpayer may apply the respective tax expenses according to AIT and at the same time he credits the amount of tax securing against the final tax liability. Besides, it must be added that in accordance with Section 35ba of the AIT, a tax non-resident may apply the basic tax relief, without fulfilling any condition, namely a tax abatement per taxpayer is concerned, which is CZK 24,840 for the year 2009.

Even if a tax non-resident does not fulfil his obligation to file a tax return (which, however, very often causes a breach of Section 38g of the AIT), Section 38e of the AIT solves also this situation. In such case the tax administrator is entitled to consider the withheld amount

of tax securing to be the fulfilled tax liability. However, the latter cannot be interpreted as a possibility not to file a tax return.

Ad c) Through withheld tax advances in the case of incomes from dependent activity (employment) and function benefits

There is a special regulation for this type of income, i.e. income from dependent activity (employment) and function benefits (see Section 6 of the AIT). The obligation to withhold tax advances is again the obligation on the part of the payer – i.e. in this case the employer. Within determining the amount of the withheld tax advances, the employer may take only two basic tax abatements in calculation – the tax abatement per taxpayer (Section 35ba paragraph 1 letter a) of the AIT) and the abatement per student (Section 35ba paragraph 1 letter f) of the AIT). In the case of the latter abatement, it is, however, necessary to fulfil what is set in AIT and for this issue related acts, i.e. the taxpayer is, briefly speaking, a student continuously preparing for the future occupation by a study or prescribed training.

2.1 Tax return and the possibility to optimize the tax burden of a tax non-resident (natural person)

In general, tax residents and tax non-residents are not quite equal in relation to the possibility of tax optimization, nor in one of the three basic means of optimization of the tax liability of natural persons, for which the author takes:

- non-taxable parts of tax base (Section 15 of the AIT),
- tax abatements (Section 35ba of the AIT), and
- tax allowance per child (Section 35c of the AIT).

Some of the above-mentioned means of optimization of the tax liability of a tax non-resident (natural person) may be applied under identical conditions existing for tax residents. The so-called abatement per taxpayer (Section 35ba paragraph 1 letter a) of the AIT) has a specific position as it may be applied by both tax residents and tax non-residents automatically, without fulfilling any other condition. To apply other tax abatements, tax allowance per child and non-taxable parts, fulfilling the conditions set by law is required, whether by tax residents or tax non-residents. In regulation of tax reliefs there is obvious the law-maker's intent to encourage some activities of taxpayers (gifts for a certain type of purpose; additional pension insurance, etc.), as well as to take the personal status of a taxpayer into account (abatement due to taxpayer's invalidity, due to the taxpayer's studies, etc.). These facts on which tax allowances are based must be of course proven in the manner set by law.

Nonetheless, in relation to tax non-residents, the permission of most of the abatements, a tax allowance per child and one non-taxable part of tax base is conditioned by a uniformly set condition which is that the sum of incomes of a tax non-resident from sources in the CR amounts at least 90% of all of his entire incomes. As a rule, the incomes from sources in the CR do not include those that are exempted or are subject to a special tax rate (tax deducted at source).

A summary of the relevant information is shown in the following two tables (Table 1 and Table 2) in which the symbol "✓" means that the application of the particular tax item is allowed to tax non-residents (natural persons) under the same conditions as to tax residents, while the symbol "90%" designates the situation when the application is bound by fulfilling the condition of "90% of incomes from sources in the CR".

Table 1: Non-taxable parts of tax base

Non-taxable part of tax base	Year 2009
Gifts	"✓"
Additional pension insurance	"✓"
Private life insurance	"✓"
Payments for examinations verifying further education	"✓"
Interest on building saving credit and mortgage credit	"90%"

Source: Own elaboration.

As regards non-taxable parts of tax base, it is evident at first sight that prevailing are items whose application possibility is the same for both tax residents and tax non-residents. But it must be taken into account that the condition of application is mostly bound to fulfilling of other conditions set by Czech Acts.

Table 2: Tax abatements and tax relief

Tax abatements and tax relief	Year 2009
Per taxpayer (basic abatement)	"✓"
Taxpayer is a student	"✓"
Per spouse whose income does not reach the amount set by AIT	"90%"
Taxpayer's invalidity	"90%"
Taxpayer is a ZTP-P* card holder	"90%"
Tax relief per child	"90%"

* Especially seriously disabled with accompaniment

Source: Own elaboration.

As regards tax abatements and tax allowance per children, the proportion is quite opposite. The prevailing part is made up of items the application of which is conditioned by reaching at least 90% of taxpayer's income from sources in the CR. In relation to the application of items designated with the specification "90%", it can be stated that their application is basically enabled to a taxpayer (who is a tax non-resident) only through a tax return, which arises from the wording of Section 38g paragraph 2 of the AIT, which sets that if a tax non-resident applies abatements to which the "90% rule" is applied and/or a tax allowance per child and/or non-taxable part of tax base in the form of interest on credit (see above), he/she may do so only in the form of a filed tax return. A relatively

specific situation is if a tax resident is a taxpayer gaining incomes from employment and function benefits. However, with regard to the extensiveness of this issue and the focus of this contribution, it is not dealt with here in details.

The above-mentioned conditions for the application of non-taxable parts of tax base, tax abatements and tax allowance per child have remained unchanged also after becoming of the Act No. 216/2009 Coll. effective. This act which substantially modifies the system of taxation of tax non-residents who are tax residents of the EU or EEA Member States can be considered as of great importance in relation to taxation of Czech Republic tax non-residents.

3 Act No. 216/2009 Coll.

Act No. 216/2009 Coll. became effective on 20 July 2009 and, as it arises from transitional and final provisions of this Act, it will be used for the first time for the tax period of the year 2009¹⁰. Due to this amendment, the regime of taxation of incomes of tax non-residents of the CR, which is subject to a deduction (withholding) of the tax at the source, is split into two basic variants depending on whether taxpayer is or is not a tax resident of the EU or EEA Member State. For the specified types of incomes, the taxpayer (tax resident of the EU or EEA Member State) has now the possibility to use a more favourable regime of taxation.

The payer's obligation to deduct and transfer (pay) the tax withheld (deducted) at the source to the tax administrator remains unchanged. However, the category of taxpayers specified above has now the possibility to use the provision of Section 36 paragraph 7 of the AIT, which sets the following: *"If taxpayers stated in Section 2, paragraph 3, and Section 17, paragraph 4, who are tax residents of a Member State of the European Union or other States that make up the European Economic Area, include incomes stated in Section 22, paragraph 1, letters c), f) or g), points 1, 2, 4, 5, 6 or 12 in their tax return, the withheld tax will be credited to their total tax liability relating to incomes from sources in the Czech Republic, for which they file a tax return in the Czech Republic. If the withheld tax or its part cannot be credited to their total tax liability because the taxpayer has a tax liability amounting to zero or if he has reported a tax loss and/or his total tax liability is lower than the withheld tax, a tax overpaid will occur in the amount of tax liability that cannot be credited. If the taxpayer does not include incomes stated in Section 22, paragraph. 1, letters c), f) or g), points 1, 2, 4, 5, 6 or 12 in the tax return until the end of the time-limit set by a special legal regulation, Section 38e paragraph 7 will be applied similarly."*

Before analysing the provision, it must be pointed out to the importance of the last sentence which has been mentioned above in a little different connection. This provision must be interpreted in such a way that if a taxpayer does not file a tax return within the time-limit set by Act No. 337/1992 Coll., on the Administration of Taxes and Charges, as

¹⁰ It must be noted that in the explanatory report to this Act there is paid no attention to changes in relation to the taxation of tax non-residents (tax residents of other Member States of the EU or EEA) – no reasons are given for the changes made. The attention of the authors of the explanatory report is focused on the new regime of tax amortization.

amended, the withheld tax is regarded as a settled tax liability. Such a procedure of a tax non-resident would be, however, in conflict with his interests as within the filed tax return he/she may apply both the respective expenses and the basic tax abatement amounting to CZK 24,840.

For a better orientation, individual incomes listed in Section 36 paragraph 7 of the AIT, i.e. incomes for which the new regime has been introduced, are specified in the table below (Table 3). Along with them, the table shows whether it is a type I income (regarded as income of a tax non-resident regardless of from whom the tax non-resident gains the income) or a type II income (regarded as income of a tax non-resident of the CR only if gained from a tax resident of the CR or a permanent establishment in the CR). There is also specified a relevant Article of CADT because respective CADT is another relevant source of law affecting the way of the taxation of these incomes (see above).

A significant fact also in the case of this regime introduced by the Act No. 216/2009 Coll. is that the Czech Republic has concluded CADT with all Member States of the EU and EEA, except for Liechtenstein. This fact is apparent particularly in relation to incomes according to Section 22 paragraph 1 letter c) and letter f) point 1 of the AIT, as these incomes of tax non-residents from sources in the CR are generally subject to taxation only if a permanent establishment come into being here – not until the origination of a permanent establishment in the territory of the Czech Republic. However, the taxation of incomes of a permanent establishment is subject to a quite different taxation regime (see Section 22 paragraph 1 letter a) of the AIT) and its incomes naturally are not included in the list in Section 36 paragraph 7 of the AIT. So in this respect, i.e. in relation to given incomes, at first sight the existence of this regime may seem unnecessary. On the other hand, it must be taken into account that the above mentioned is an expression of the law-maker's carefulness in case a specific stipulation of a CADT deviates from this general regulation and also due to the fact that the CR has not concluded CADT with Liechtenstein.

The fact that the CR has concluded CADTs with all the Member States of the EU and with Iceland and Norway (as the States of the EEA) has an effect on the amount of the withholding tax rate which may be withheld by the respective payer. The CADT usually specifies the maximum tax rate for certain types of incomes (e.g. licence fees). At this point the author reminds that if CADT sets a higher rate than AIT (which is a rather hypothetical situation), the lower rate in AIT will be applied. If a taxpayer errs and withholds the tax rate according to AIT which is higher than that set in the relevant CADT, then the tax that may be credited subsequently in the tax return is the tax set in the relevant CADT. This solution is also valid for the situation when the so-called refunding system is applied in relation to the withheld tax. This is the situation when the payer withholds tax according to the national regulation and the taxpayer has the possibility to apply for the refund of the tax overpaid (i.e. the tax amount above the limit set in the CADT), if any.

Table 3: Incomes that are liable to a new tax regime

Provision of Section 22, AIT		Income type	Corresponding CADT Article ¹¹ for the given type of income
Type I	paragraph 1 letter c)	Incomes from services except for carrying out construction and erection projects, incomes from marketing, technical or other consultations, managing and agency activities and similar activities in the Czech Republic,	Article 5 – Permanent Establishment
	paragraph 1 letter f)	1. from independent activities, for example, of an architect, physician, engineer, lawyer, scientist, teacher, artist, tax or accounting adviser, and similar professions, carried out in the Czech Republic,	Article 7 – Business Profits
		2. from personally performed activities in the Czech Republic or here evaluated of a publicly performing artist, sportsman, artiste and co-performing persons, regardless of who receives these incomes and from what legal relationship,	Article 17 – Artistes and sportsmen
Type II	letter g)	1. compensations for granting the right for using or for using an industrial ownership object, computer programs (software), production and technical and other economically usable knowledge (know-how),	Article 12 - Royalties
		2. compensations for granting the right for using or for using a copyright or a right similar to copyright,	
		4. interest and other revenues on granted credits and loans and similar incomes gained from other business relations, from deposits and from investment instruments according to a special legal regulation regulating the capital market business,	Article 11 – Interest
		5. incomes from using a movable or its part in the Czech Republic,	Article 12 - Royalties
		6. remunerations of the Members of statutory bodies and other bodies of legal entities,	Article 16 – Director’s fee
		12. sanctions from liability relations,	

Source: own elaboration.

¹¹ * The model OECD convention has been chosen with regard to the fact that conventions concluded with Member States are based on this model and even if there are some differences (e. g. an absence of a special regulation for some type of income), the existing CADT are basically very similar.

** Due to the wording of the respective CADT and AIT, some of the incomes may fall under other than the cited articles (e.g. some conventions have a special provision for so-called independent occupations, e. g. CADT with Italy). The wording of a specific CADT and the relevant provision of AIT are decisive.

3.1 Advantage of the new regime

In spite of the fact that the explanatory report to Act No. 216/2009 Coll. does not contain any reasoning of adoption of this regulation, the author thinks that this regulation has been adopted to reach greater compliance with the Community Law. Before introducing the new regime relating to tax residents of the EU and EEA Member States, this group was strongly disadvantaged compared to tax residents as it could not apply related expenses in a number of cases (the tax liability was assumed to be fully settled by withholding the tax at the source by the payer). To demonstrate the advantage for tax non-residents who are at the same time tax residents of an EU Member State, a model example is further considered. The model example compares the taxation of the selected type of income, included under new Section 36 paragraph 7, according to the regulation until 19 July 2009 and from 20 July 2009¹².

Example:

The taxpayer is a tax resident of a Member State of the EU and he has gained an income from sources in the CR as a publicly performing artist. The respective CADT enables to tax this income in the CR.

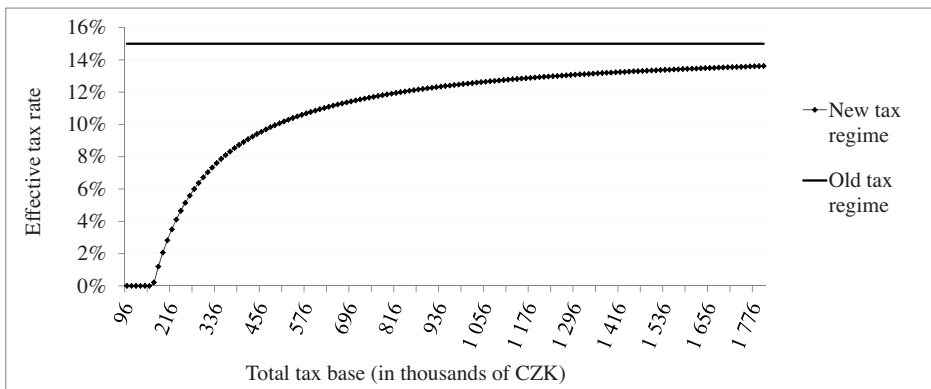
1. According to the original regulation (designated as the "old" taxation regime), the payer would have withheld a withholding tax from the gross income in the amount of 15% and the taxpayer's tax liability would have been fully settled in this way.
2. According to the new regulation (designated as the "new" taxation regime) the payer will also withhold a withholding tax at the source from the gross income. However, this income in the gross amount is included by the taxpayer in his tax return where the respective expenses according to AIT may be subtracted from it and the withheld tax amount may be credited to the final tax liability. Of course only expenses eligible according to AIT may be applied.

The model of determining an effective tax rate from which the graphs below (Diagram 1 and Diagram 2) result is based on the following starting points and simplifications:

- The basic tax abatement per taxpayer is applied in the amount of CZK 24,840 (Section 35ba paragraph 1 letter a) of the AIT), to which the taxpayer (including a tax non-resident) is entitled without having to fulfil any other conditions;
- other forms of tax reliefs (tax abatements, tax allowance per child or non-taxable parts of tax base) are not considered;
- expenses amounting to CZK 0.00 are considered, i.e. the tax base is identical to the gross income from which the tax was withheld;
- the range of the gained annual tax base (income) is considered from CZK 96,000 to CZK 1,800,000;
- the effective tax rate (ETR) is given as the ratio of the final tax liability to the tax base.

¹² Author reminds already given fact that the new regime of taxation can be used already for the year 2009.

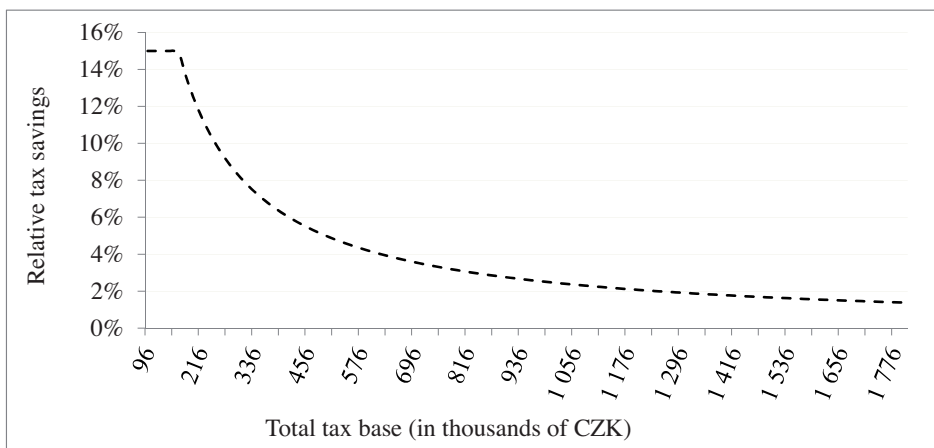
Diagram 1: Comparison of the effective tax rate for the “old” and “new” tax regime



Source: Own elaboration

The diagram above shows a clear advantage of the new tax regime for tax non-residents. However, this consideration does not include possible costs of tax non-residents connected with filing a tax return and other administrative costs. This advantage for the tax period is given particularly by a high amount of the basic tax abatement per taxpayer. The effective tax rate has a progressive character for the “new” tax regime, which is given by the fact that the relative percentage of this abatement decreases with the growing income. Even if we consider the situation when a taxpayer does not deduct any relevant expenses (i.e. the gross income is equal to the tax base itself), it happens that up to the gross income of CZK 165,600 the final tax liability of a tax non-resident is zero. The following diagram (Diagram 2) represents the amount of tax savings of the “new” regime compared to the “old” one.

Diagram 2: Relative tax savings resulting from the newly introduced regime



Source: Own elaboration.

In conclusion, it may be stated that the regime according to Section 36 paragraph 7 of the AIT for tax residents of the EU and EEA Member States for the tax period of 2009 for whom it will be used for the first time is advantageous. If we extend these considerations by taking the time factor into account, then it is true that the advantages for a tax non-resident will follow from this tax regime with a certain time delay. It must be taken into account that the tax withholding by the payer will be also realized – in this there is no difference to the “old” tax regime. So the taxpayer will only be able to dispose of the net income (gross income minus the withheld tax). He will be able to use the advantages of the newly introduced regime only within the filed tax return where the withheld tax amount will be credited to the final tax liability.

Conclusion

To sum it up one can observe that even the area of direct taxation of incomes from employment and from enterprise and other self-employed gainful activities is affected by the European Union Law despite the fact that there is no regulation or directive for this issue. In this respect, the sovereignty of a Member State to set its own regulation has been broken on the part of European Union¹³ with the aim to ensure factual fulfilment of basic freedoms that represent headstones for EU functioning.

Author thinks that with regards to the conclusions of the ECJ it can be summarized that the basis for reaching the compliance of the taxation of a tax non-resident who is at the same time a national of, and resides in, another EU Member State includes two basic attributes:

1. to secure the possibility for this group of taxpayers to deduct, in relation to the reached income in the territory of the Czech Republic, the relevant expenses provided that also the tax residents of the CR have this possibility and
2. to enable this group of taxpayers from other Member States to apply, under adequate conditions, also tax reliefs (non-taxable parts of tax base, tax abatements and tax allowance) to which, as a standard, the tax residents of the CR are entitled.

With regard to what has been mentioned above, author thinks that in many respects AIT at present fulfils both of the mentioned attributes. Also the changes brought by Act No. 216/2009 Coll. have positively contributed to this. When speaking of Act No. 216/2009 Coll. it is to stress that this amendment to AIT brought positive changes for a tax resident of an EU Member State. In this respect we can observe with high probability that most of tax residents of EU Member States are those who are at the same time nationals of some of EU Member States. However, there still can be a group of taxpayers who are nationals of some of EU Member States but who are not at the same time tax residents of some of an EU Member States. Such taxpayers, according to the Czech valid and effective regula-

¹³ The relevant ECJ case law which represents a source of law for taxation of aforesaid incomes relates to cases, where discrimination between a national of the State of the source of respective income and a national from another Member State occurs. At the same time it is necessary to observe that it does not mean total equality between nationals of different member States.

tion, will not be able to use the new regime of taxation implemented by Section 36 Para 7 of AIT.

In relation to the other above-mentioned points, it is useful to note that with effect since 01 May 2004 (the CR's joining the EU), the so-called "90% rule" has been applied in AIT, i.e. the possibility to apply other tax reliefs by tax non-residents¹⁴ provided that the summary of their incomes from sources in the Czech Republic according to Section 22 of the AIT amounts at least 90% of their entire incomes. Concerning the tax residents of another Member State the AIT also states, with effect since 01 January 2004, the exclusion of securing the tax according to Section 38e of AIT in a case a payer performs on behalf of a tax resident of an EU or an EEA Member State.

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¹⁴ In this respect there is no differentiation between tax non-residents from EU Member States and other tax non-residents.

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Microeconomics – An Elementary Course

Mikroekonomie – základní kurz

MOJMÍR HELÍSEK

Heissler, H., Valeník, R., Wawrosz, P.: Mikroekonomie – základní kurz
Vysoká škola finanční a správní¹, Prague: 2010. 304 pages. (Microeconomics – An Elementary Course).

In this years' autumn, a significant feat of The University of Finance and Administration publishing house was achieved. As a first contribution to the new edition line of textbooks, a textbook for elementary (bachelor's) course of microeconomics was published. The textbook elaborates on the previous series of instruction tools (readers and manuals) concerning this subject and is therefore a result of many years of work.

The textbook begins with *introductory notes*, in which the reader is acquainted with what microeconomics is and why to study it. This is followed by an explanatory section of the textbook, which has 11 chapters. Each chapter is summarized by an overview of important terms, questions and examples. The explanatory section is followed by a methodical part of the textbook describing the basic characteristics of curves, their shapes, shifts and sums, relationships between the marginal and average quantities and so on.

The first chapter traditionally deals with *Elementary terms, principles and laws of microeconomics*, among which the authors particularly placed scarcity and utility, opportunity cost, production possibility frontier, Pareto optimality and more. They continue with the *Theory of consumer behaviour* explaining the consumer optimality through indifference analysis and marginal utility, in which special shapes of indifference curves (complements and substitutes) were not omitted. The chapter titled *Theory of firm* explains quantities of costs and revenues of firms including a wide range of numerical illustrations in charts and graphic analysis of cost and revenues curves, under conditions of a perfectly competitive firm. In this regard, an analysis of a firm equilibrium is given (the authors avoid the term "optimum of firm"). The next chapter titled *Demand, Supply and Market Equilibrium* explains traditional neo-classical theory of the market including the consumer and producer surplus and price elasticity of demand and supply. Unfortunately, the income elasticity of demand was neglected. The next three chapters – *A Perfect Competition, An Imperfect Competition* and *Monopoly* compare these market structures including the graphic analysis with the exception of oligopoly. This remains rather general and does not deal with any of the specific models, and does not even provide a single graphic description of cartel. Chapters *Theory of Factors of Production* and *Capital Market* discuss both general terms (demand, supply and the market of factors of production), and labour market and capital market specifics. We must appreciate the discourse concerning the Fisher's diagram of interest. The chapter titled *General Balance* deals in a great detail with the 2x2x2x2 model, which will, for most students of the bachelor's an program, be a topic that will be hard to understand. The closing chapter – *Microeconomic state policy* describes the allocation

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and redistribution role of the government, including the differentiation between custodial and merit goods.

The textbook is written in an easy-to-understand style, including many examples from real life. However, some readers might find difficult to get themselves oriented in non-traditional marking of inputs, such as Q (for instance, capital is marked as Q^1 and labour as Q^2) and outputs as Q' (e.g. the marginal product is marked as MQ'). One great asset of this textbook is its fantastic graphic presentation in three colours, which contributes towards the clarity of the instruction.

In the end, we would like to express our conviction that this textbook will find its readers, not only from the ranks of students and instructors of Vysoká škola finanční a správní, but shall also serve as additional literature for those who are interested in the subject at other universities.

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Microeconomics - An Advanced Course

Mikroekonomie – středně pokročilý kurz

RAFIK BEDRETDINOV

Heissler, H., Valeník, R., Wawrosz, P.: Mikroekonomie – středně pokročilý kurz Vysoká škola finanční a správní¹, Prague: 2010. 285 pages. (Microeconomics - An Advanced Course)

Towards the end of 2010, the publishing house of The University of Finance and Administration published a textbook titled *Microeconomics – An Advanced Course*, intended for master's studies. From the formal point of view and with regard to its content, it elaborates on *Microeconomics – An Elementary Course* textbook, published earlier by the same three authors.

The concept of general balance, which later became a background for a thorough analysis of the textbook under review, was the thematic climax of the elementary course. However, in this book, the instruction concerning the general balance has more complex character allowing the students of master's program to understand how the laws of microeconomics function in the economic system as a whole, which sensitively responds to all sorts of influences, and in particular to the innovation ones. As a follow-up to the underlying issue, the textbook deals with other topics of microeconomics, such as:

- An instruction concerning capital market and a phenomenon of productive consumption;
- An extensive and critical analysis of the theory of wealth;
- An in-depth analysis of the microeconomic role of state;
- A systematic instruction on the theory of distribution;
- An extensive and inspiring presentation of microeconomic aspects of the theory of games, theory of distribution systems and public choice theory.

The above mentioned division of the instruction has a reason. The authors seek to interconnect the logic and content of individual thematic units. And they succeeded in doing so. They managed to show an effective and clear picture of macroeconomic reality and to connect it with reality. A clear instruction allows students to understand not only the content of the textbook, but the economic reality, as well.

The textbook offers a new paradigm of the whole macroeconomic theory – a productive consumption seen as an active factor in forming of the future income. The given approach allows to analyze the consumption not as a passive element but as an active driving force in the shaping of the economy, which is the reverse of the traditional view presented by standard theories of wealth.

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In the section titled *Direct and Indirect Role of the State*, the authors present an alternative to the current concept of reforms (hypertrophy of the market or hypertrophy of redistribution). From their point of view, it is necessary for the state to increase equal opportunities as a measure of acquiring and exercising human skills. In this regard, one section is dedicated to the issue of a comprehensive reform of social investment and social insurance system that is the funding of education, health care and pension scheme. An important part of the textbook gives an account of the theory of games and the public choice theory. It provides a comprehensive overview on the basic game schemes, reflecting the behaviour of economic subjects under conditions of uncertainty. The offered material in the textbook should provide some guidance for the choice of optimal solutions in real life.

From the methodological and pedagogical point of view, the clear arrangement of the instruction with additional suitable examples, the precision of coloured diagrams, mathematical add-ons, which clearly explain elementary microeconomic quantities and relationships, must be much appreciated.

In conclusion, it can be noted that the textbook under review can serve as a tool to understand today's reality not only for the economists but also for everyone who is interested in understanding the world as such.

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Benefit for Enterprises, Business and Theory

Přínos pro podniky, obchodování i teorii

IVAN JUKL

Kašík, M., Havlíček, K.: Marketing při utváření podnikové strategie. Prague: VŠFS EUPRESS, 2009. 256 pages. (Marketing in the making of business strategies)

A publication of seasoned authors, in which they put to good use their many years of experience with the functioning of small and medium enterprises, is based on their lifelong practice as managers and their expertise in business management, marketing, domestic and foreign trade and more recently in education. The monograph is a successful attempt to describe marketing as a way of thinking, business management and conduct of corporate management. This sets the publication distinctly apart from a number of other titles dealing with the marketing.

It is apparent from the publication that the authors are well aware of the change and current situation on global markets, which is characterized by emergence of Asian superpowers, by the development of African and Latin American markets or gradual integration of the EU. On one hand, small and medium enterprises have an opportunity to enter new and growing territories, but on the other they fear strong competition from countries of the former third world. As a result of an extreme competition there is a substantial shift in marketing management and process-based commerce towards the needs of customer, rather than those of companies, as value creators.

In this regard, the publication becomes a hands-on guide concerning the change management in organisations, particularly in the area of customer orientation. By doing this it also becomes an inspiration for public sector, whose low competitiveness in the Czech Republic is mostly given by the "clerk-to-clerk" relationship instead of a "client (tax payer) to expert" one. In the field of foreign trade, it could contribute to the transformations of the so called "economic diplomacy", which, in the developed countries, shows a tendency to individualisation and a certain degree of commercialization of its services. In this area, I see some synergies given by diplomacy's feel for respecting the cultural differences and by the respect of authors for values and philosophies of foreign markets. The state services abroad and the "conquest" of new territories as such must undoubtedly be based on the mutual respect and understanding of cultural specifics.

The authors respect the relation marketing as the basis for process management of the enterprise, which serves as a foundation for other operational and strategic tools of business management. The publication provides guidance how to handle marketing management at the level of strategic development of firms, as well as operational management, based on the pillars of marketing management – marketing research and plans. The book can serve as a theoretical background to understand marketing and business management principles, however it does not describe marketing as a stand-alone discipline, but as an element of corporate processes and as a foundation for the preparation of strategic and operational business plans in a hyper-competitive environment.

The sections regarding the role of the internet in marketing are very innovative, among other as a tool that familiarizes the life style even for countries where value marketing clashes with the need to secure essential necessities and values for life. Furthermore, I find the concept of marketing communication mentioned in the text as entirely new, where it is precisely indicated, how to proceed in the business sphere in one of most financially demanding phases of the marketing mix, that is especially in advertising and other instruments. For small and medium enterprises it is a guide how to achieve savings depending on the required effect and effectiveness. The modern relation marketing is induced by the necessity of business to assert themselves in the global hyper-competitiveness when supply is over ten times higher than demand in many commodities. Therefore I was reading with great interest and very much appreciated the analysis of authors, which dealt with the development of the economy after the fall of iron curtain when the trade and entrepreneurship become, in connection with new ICT technologies, entirely global and universal and when not only the innovation of manufacture, but also the internal processes make an essential part of the competitive edge of enterprises.

Therefore, the book is a valid contribution allowing us to understand in more depth how the marketing and new economy are linked and at the same time is a rich source of inspiration for further consideration and research. We should not also forget the style, language and methodical structure of the publication including clearly formulated and mostly valid axioms for business practice. This publication becomes valuable for both small and medium enterprises, state and private organisations active in the field of domestic and foreign trade and corporation, and for education and research activities as well.

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PREVIEW /PŘIPRAVUJEME:



Next issue of the scientific reviewed journal ACTA VŠFS will include article Remarks to the Development of Public Administration from the Concept of "Government" to the Concept of "Governance" (author: K. Lacina) and the related article Public Governance, Social Services and Social Assistance Benefits (author: L. Průša). Issue of business is devoted the article about corporate governance in Germany (author: M. Diederich). We don't forget the current problems in our state's economy in article Prospects of Adopting the Euro in the Czech Republic (author: P. Gočev).

Následující číslo vědeckého recenzovaného časopisu ACTA VŠFS bude obsahovat stati **K. Laciny** o vývoji veřejné správy od pojetí „government“ k pojetí „governance“ a na ni navazující stat **L. Průši** na téma public governance, sociální služby a dávky sociální péče. Podnikové problematice je věnována stať **M. Diedericha** o corporate governance v Německu. Nezapomene ani na aktuální problémy naší ekonomiky stati **P. Gočeva** o perspektivách přijetí eura v České republice.

INSTRUCTIONS FOR AUTHORS /POKYNY PRO AUTORY:



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The length of manuscripts, using the usual structure of research papers, is 15 – 20 PC pages (single spacing). Please submit the manuscripts in good English in electronic format together with a printed copy. Attached, submit the executive summary – abstract (150 words max.) and keywords (6 – 8), both also in Czech.

Please number your notes as you go along. Add a bibliography in alphabetical order, including page numbers when citing magazines or a journal. Inside the text, please use e.g. Afonso (2001), and when citing include the page number. Use the compatible forms for tables and figures. Highlight where pictures, graphs and tables will be placed in the text. Write your contact address: full name and titles, name and address of your work, telephone number and email, including the same for all co-authors.

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Rozsah rukopisů, dodržujících obvyklou strukturu vědecké práce, činí 15 – 20 PC stran (jednoduché řádkování). Rukopisy předkládejte v dobré angličtině v elektronické podobě spolu s vytištěným exemplářem. Současně předejte abstrakt (max. 150 slov) a klíčová slova (6 – 8), obojí rovněž v češtině.

Poznámky číslyte průběžně. Dále uveďte seznam literatury v abecedním pořadí, u časopisů a sborníků i stránky. V textu pouze odkazujte, např. Afonso (2001), pokud citujete, uveďte i stranu. Tabulky a obrázky dodávejte v kompatibilním formátu. Umístění obrázků, grafů a tabulek v textu vyznačte. Uveďte kontaktní adresu: plné jméno s tituly a vědeckými hodnostmi, přesný název a adresu pracoviště, číslo telefonu a e-mail. Stejně údaje uveďte i u spoluautorů.

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the 1990s, the number of people with a mental health problem has increased in the UK (Mental Health Act 1983, 1990).

There are a number of reasons for this increase. One is that the definition of mental health problems has become broader, so that more people are included in the category. Another is that the incidence of mental health problems has increased. This is due to a number of factors, including changes in the way that people are treated, changes in the way that people are defined as having a mental health problem, and changes in the way that people are treated. For example, the number of people with a mental health problem who are treated in hospital has increased, while the number of people who are treated in the community has decreased.

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