



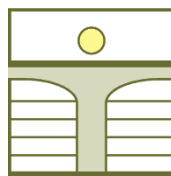
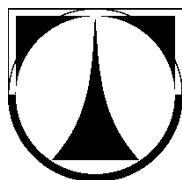
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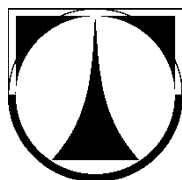
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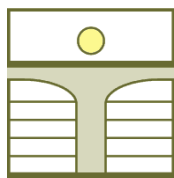
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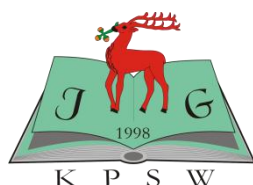
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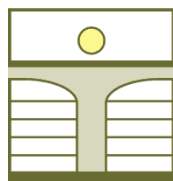
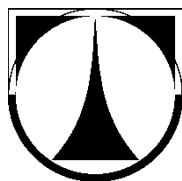
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NEWFOUND INVESTORS PRUDENCE ON THE CAPITAL MARKET WITH EMU MEMBERS GOVERNMENT BONDS

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Abstract

Europe, or some of the states of the European Monetary Union (EMU), is undergoing an interesting, though unfavorable, period. The flaws of the EMU which were pointed out by some studies about the optimum currency areas (OCA) were finally fully manifested with the emergence of financial crisis coming from the United States of America and during the following debt crisis. This report is focused on selected states of EMU, their policies of financing the national budgets in the environment of a united monetary area with common monetary policy using government bonds on the one hand and the access of investors depositing their coffers into those instruments of capital market on the other hand. Due to the fact that monetary areas will be evolving – fading out and coming up – authors consider analysis and description of certain aspects in attitudes of states and investors towards financing their economic intentions along with rising and continuation of those areas, particularly the EMU, to be beneficial.

Introduction

Economies of European Union (EU) got, after the financial crisis ignited in the United States of America, into the debt crisis of each more or less sovereign economy. It is the limited sovereignty of individual countries of European Monetary Union (EMU) that is manifested by the collective monetary politics, which is in such vast and economically fairly inhomogeneous area hardly conductible using traditional and functional tools of monetary politics of central bank. Much criticism coming from the economists is aimed towards former politicians of today's member states of EMU, stating they did not respect economic studies about optimum currency areas (OCA) [14] which were and still are pointing out inhomogeneity and thus impropriety of certain countries to be part of EMU (e.g. [2, pp. 233], [4], [15, pp. 89–104], [24]). The situation is now worsened by the fact that the question of eventual resignation from EMU is unthinkable during ongoing crisis. Forced leave of a weaker state and the loss of its debt investors would trigger a very emotional behavior on the government bonds market of other endangered members. Those affected would then lose their ability to place their bonds on the market and that would practically lead towards their bankruptcy and forced help from multinational economic institutions (such as IMF – International Monetary Fund).

Inability of individual members to react in a similar way to united monetary policy both from government and private institutions view causes problems in fiscal policy. With the creation

of EMU, the system of “locomotive” was preferred, namely by France, instead of the “coronation” one, defended by Germany and Great Britain (more see e.g. [2, pp. 31], [15, pp. 18]) in particular. But in comparison to hurried liberalization on various markets, the membership of some unadaptive economies is like a “shock therapy” [21]. So on the one hand, there are the governments of the member states misusing deficit spending to be blamed for the today’s debt crisis and that they were unable to adapt their individual economies to applied shared monetary policy. On the other hand, the mistake of investors was that they, under the impression of united monetary policy, reduced perceived risks and lowered the demanded risk bonus with these government bonds and that they were not exerting pressure to faster consolidation of national budgets across the EMU in good times.

If investment should by definition mean postponed actual expenditure in order to increase expenditure in the future, then deficit planning is defined as increase of actual expenditure at the expense of future expenditure. Many countries along with investors are being taught the hard way that improper application of Keynesian aggregate supply hand in hand with inadequate co-operation of monetary policy means future economic instability or, in better case, necessary economic recession. If Keynesian policy was applied correctly, for example in Greece, then we would read from the chart Tab. 1 that local economy is suffering from chronic deficiency of aggregate supply which has to be constantly supported.

1 Aims

Aim of this paper is, based on the historical data, to give an analysis of behavior of selected economies in the process of creation of the monetary union as a party figuring as a payee and also the reactions of the stock investors on the conditions of creation and the continuation of the monetary union. Due to the limited size of the report we have chosen the form of a fractional analysis of just a few indicators.

2 Methodology

As aforementioned, this report is focused mainly on the bond investment in some member states of EMU. Considering the topicality, countries are observed and analyzed not extensively, but from the viewpoint of interest rates of bonds issued for ten years by Germany as the biggest economy of the EMU, then some problematic states of EMU, called as group PIIGS (Portugal, Italy, Ireland, Greece and Spain) and finally some economies that are considered to have a healthy economy (Sweden), in spite of using intendentious model of a social state. Examined period consists of data from the second half on 90s, that is right before the final creation of EMU, first with cashless payments (1999) and then with cash used (2002) in single currency of EMU. Period before the creation of Eurozone offers data related to convergence programme and to necessity to fulfill Maastricht convergence criteria.

Within the research, the methods used are: analytical-synthetic method, induction and historical method.

3 Research

In the part devoted to methodology, the reasons for selecting particular economies were enlightened. This chapter will now focus on attitude of investors towards financing long-term government bonds on capital markets connected to regions mentioned.

Fundamental prerequisites for historical methods are figures. Authors are aware of imperfections that this method can bring up and are therefore determined to continue in deep analysis of capital market not only from the viewpoint of government bonds. For example

there is a space for deeper mathematical and statistical analysis, particularly correlation between variables used.

3.1 PIIGS economies

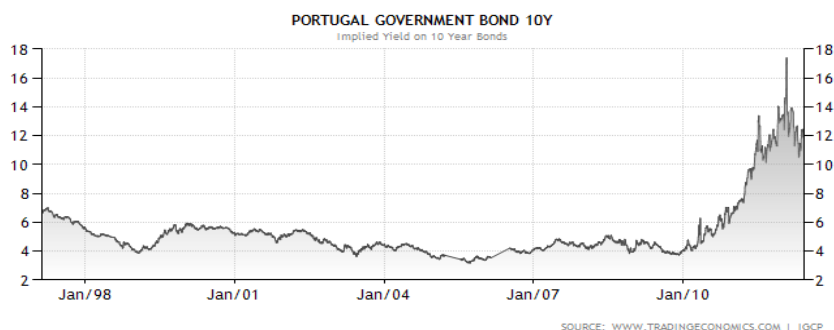
PIIGS is an acronym used for Portugal, Italy, Ireland, Greece and Spain. They were given this homely nickname for their problematic economies. Problems with financing the national debt of these economies have various causes which cannot be, due to their extent, the focus of this report. Nevertheless, they should be, if only briefly, mentioned. Ireland, until recently known as “Celtic Tiger”, got into the unfavorable situation after the financial crisis and was forced to ask the IMF for help. Similarly, due to the effects of the crisis and global recession, Italy, which had not exactly been experiencing big economic growth, but had been at least relatively stable, got into trouble; the same with Portugal and Greece. Spain, besides the economic regression on markets, was also hit by unfavorable situation on the real estate market due to money being cheaper (having lower interest rates set by ECB) than the value suitable for the needs of the region as a part of EMU.

Bigger economies (Italy and Spain) to some extent resisted those shocks, in spite of all the problems they encountered. Economically less potent Ireland, Portugal and Greece (smaller and thus by investors considered weaker and more vulnerable) had to ask for help from multinational institutions, such as IMF and ECB, who already intervened more than once on those markets.

Variety of effects of external shocks on EMU, particularly on states hidden under the PIIGS acronym again with current monetary policy proved inappropriateness of creation of such a monetary union (see the opening of this report).

3.1.1 Interest rates of 10Y bonds of PIIGS countries

As demonstrated in Figure 1, Portugal ten year bonds were stable in terms of income for almost all the observation period except the last two years, when Portugal was, after the global financial crisis, also fully hit by the debt crisis. Exceptions with interest rates nearing 6 % are between years 2000 and 2003 when the US were hit by technological stock crisis (dot-com bubble) and again in 2000 when the Euro hits its contemporary bottom in relation to the American dollar (0.8225 USD/EUR) [20]. Positive moments for Portuguese government were right before using Euro as a cashless currency until the year 1999 and after its physical emergence in 2002. Therefore it is possible to say that there was an optimism and positive expectations back then.

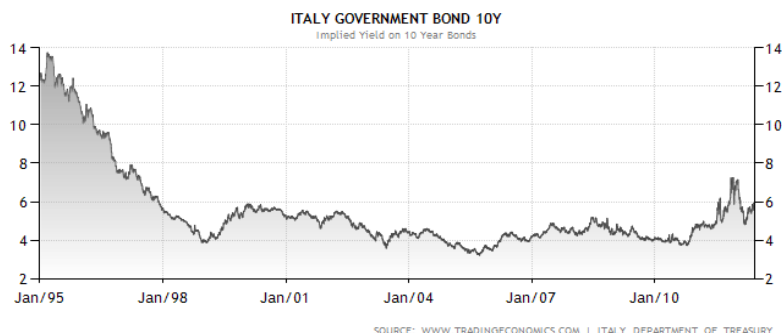


Source: [16]

Fig. 1: Portugal – Government bond 10Y (January 1997 – June 2012)

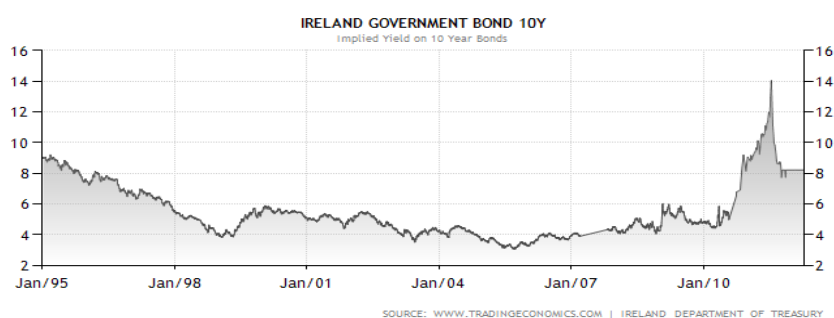
Similar development as in Portugal can be seen in Italy (Figure 2), Ireland (Figure 3) and in Spain (Figure 4). Success of new monetary union definitely lowered investors' perception of

risks. They then failed to see differences between individual economies of one monetary union.



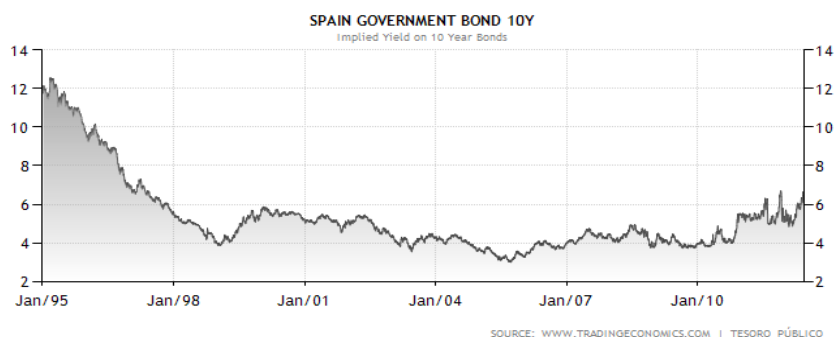
Source: [12]

Fig. 2: Italy – Government bond 10Y (January 1995 – June 2012)



Source: [10]

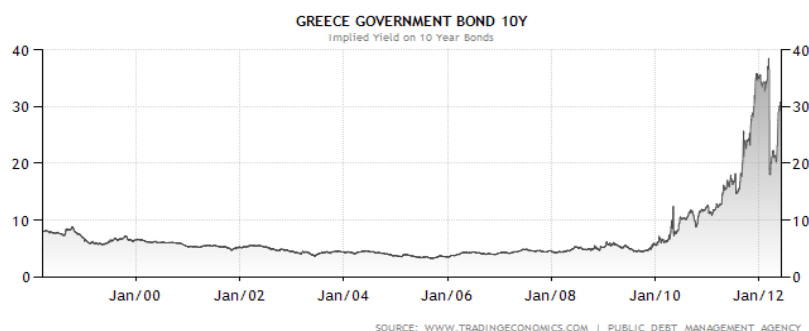
Fig. 3: Ireland – Government bond 10Y (January 1995 – June 2012)



Source: [18]

Fig. 4: Spain – Government bond 10Y (January 1995 – June 2012)

Greece on the other hand seems to be a bit different from the government bonds market analysis point of view (see Figure 5). Decrease of demanded revenue of 10Y government bonds comes with a delay. Particularly from 4th quarter of 2001 to 4th quarter of 2005 and after that, in 2006 gradual increase turns up that goes up steeply in last two years. Initial decrease can be connected to planned joining Greece EMU in 2002 when government made efforts to meet convergent criteria. Positive attitude of investors remains, in spite of lesser effort of government to lower the deficit (Tab. 1). There can be seen a kind of irrationality in the behavior of investors to whom the addressee of borrowed stocks is more and more in debt (and which is not due to positive reforms being passed) and they are still willing to give out money cheaper and cheaper.



Source: [8]

Fig. 5: Greece – Government bond 10Y (January 1998 – June 2012)

Tab. 1: PIIGS Annual Government Budgets (1996 – June 2012) in % GDP

	Portugal	Ireland	Italy	Greece	Spain
1996	-5	-2.1	-7.4	-9.1	-6.5
1997	-4.5	-0.1	-7	-6.7	-4.8
1998	-3.5	1.1	-2.7	-6	-3.4
1999	-3.4	2.4	-2.8	-3.9	-3.2
2000	-2.8	2.7	-1.7	-3.2	-1.4
2001	-2.9	4.8	-0.8	-3.7	-1
2002	-4.3	0.9	-3.1	-4.5	-0.6
2003	-2.8	-0.3	-2.9	-4.8	-0.5
2004	-2.9	0.4	-3.5	-5.6	-0.2
2005	-3.4	1.4	-3.5	-7.5	-0.3
2006	-6.1	1.6	-4.3	-5.2	1
2007	-4.1	2.9	-3.4	-5.7	2
2008	-3.1	0.1	-1.5	-6.5	1.9
2009	-3.6	-7.3	-2.7	-9.8	-4.5
2010	-10.2	-14	-5.4	-15.6	-11.2
2011	-9.8	-31.2	-4.6	-10.3	-9.3
2012	-4.2	-13.1	-3.9	-9.1	-8.5

Source: Own based on [9], [11], [13], [17], [19] and [3]

In general it seems that investors were focused mainly on monetary angle of economy and gave lesser priority to fiscal quality of a country, with exception of Spain and Ireland. Rating agencies also played an important role when, e.g. in the case of Greece, reacted with delay. But then from 2009 they let the rating fall free [7] and let the pessimism spread out onto the other capital markets.

3.2 Other selected economies – Germany, Sweden

The next part of this paper is focused on economies with positive development during the current debt crisis, particularly from the national budget deficit point of view but also from the viewpoint of profitability of 10Y bonds – Germany and Sweden. Specific for these countries is that Germany for its economic performance is considered to be the engine of the whole EU; Sweden is then an example of a typical state with working social securities and thanks to the negative results of public referendums still stands outside the EMU, even though it has no authorized exception as in the case of Denmark and Great Britain.

3.2.1 Interest rates of 10Y bonds of Germany and Sweden

In the narrow sense, the authors focus only on the development of 10Y bonds in connection with historical events with help of development of national deficits, the attention of historical method focuses on economies of Germany and Sweden.

Germany, before entering into cashless EMU (that is since 1999) and till the physical start of Euro on government market bonds with 10Y bonds, copies the tendency of rates that aforementioned PIIGS states had, as you could see in figure 7. Although Germany could not meet balanced budgets during the observed period (see Figure 6), it retained its investors' faith with help of reforms on the employment market known as Hartz I–IV, long-term redundancy on commercial bills and announced promises to aid the public funds that were kept. Important stand of Germany in EMU hand in hand with the fact that applied monetary policy fits Germany means that the country profits with positive interest rates on its 10Y bonds under the 2 % (see Figure 7).



Source: [6]

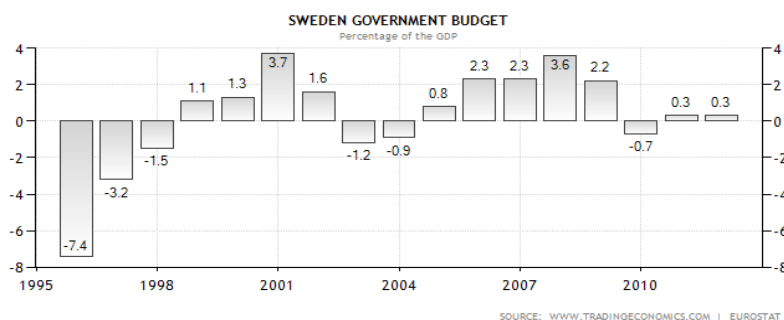
Fig. 6: Germany – Annual Government budget (January 1996 – June 2012)



Source: [5]

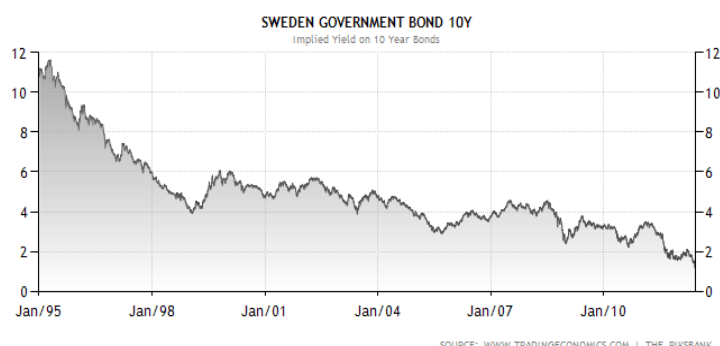
Fig. 7: Germany – Government bond 10Y (January 1995 – June 2012)

The last analyzed country is Sweden. It can be seen in Figure 8 that this country can hold on to balanced public funds for a long time (approximately since 1998), which means lowering the national debt athwart the GDP. Sweden, being one of the original fifteen states of EU has no authorized exception for the admission of Euro and is therefore obliged to accept it. But Sweden is, mainly thanks to public referendums, avoiding the subject and thus preserves its autonomy in both fiscal and monetary policy. Particularly due to balanced economy and functioning social policies, Sweden is, similar to Germany (and also Finland), in favor of government bonds investors with benefit from 10Y bonds under the 2%, as seen in Figure 9.



Source: [23]

Fig. 8: Sweden – Annual Government budget (January 1995 – June 2012)



Source: [22]

Fig. 9: Sweden – Government bond 10Y (January 1995 – June 2012)

To end this chapter we can mention that balanced national debts have positive effect on deficit planning of a country, especially if they are sustainable during the crisis. Financial and the following debt crisis increased the awareness of the fact that individual countries of EMU are not coordinated and have a long way to go to be an optimum currency area, which will be reflected in new difficult tasks for ECB and also for individual countries of EMU.

Conclusion

Analysis and applied historical research method on attitudes of investors towards financing national deficits is valuable for countries, for common corporate activities throughout the capital market and in the end for the investors themselves. Speaking of effects of economies on the amount of enumeration (interest rates or profits) it is obvious that where there is effort to make the national budget balanced, hand in hand with economical robustness, there is a positive effect on interest rates. Analysis also implies that government bond investors have problems to detect quality of public funds of each country, especially more when the countries are parts of newly created monetary union. Rating agencies can also reduce the awareness by placing the countries on a rating scale and thus playing a negative role.

From graphical analysis (Figures 1–5) it is obvious that capital is cyclic and behaves sentimentally based on the logic of risk seen in demanded interest rate. That means, during the crisis or recession, when there is a need for external funds for the state apparatus (thus not by means of taxes, that are also devalued, and other kinds of fees and charges), the willingness to lend is lowered and price of lending is, on the other hand, higher. This characteristic of capital thus hurts the financing of national debt even more. On the contrary, during the growth times (also called boom) it is rational from the investors that they demand lower interest rates for their loans. On the other hand, in this phase of the cycle the willingness of the states to lower their deficits is little, in spite of greater government incomes, due to lower interest rates. From

viewpoint of stabilization of national budgets it would help if the investors were still demanding government bonds with higher interest rates even after the recession for time needed to stabilize the public funds and project the lowered risk of such country e. g. into the corporate bonds.

Acknowledgements

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ZNOVUNALEZENÁ OBEZŘETNOST NA KAPITÁLOVÉM TRHU SE STÁTNÍMI OBLIGACEMI VYBRANÝCH ČLENŮ EMU

Nedostatky EMU, na které už při svém vzniku upozorňovaly některé studie zabývající se optimálními měnovými oblastmi (OCA), se naplno projevily v souvislosti s finanční krizí propuknuvší ve Spojených státech amerických a následnou krizí dluhovou. Tento příspěvek se soustředí na vybrané státy EMU, jejich politiku financování státních rozpočtů v prostředí jednotné měnové oblasti se společnou monetární politikou prostřednictvím dluhopisů na straně jedné a na přístup investorů vkládajících své volné finanční fondy do těchto nástrojů kapitálového trhu na straně druhé. Jelikož se měnové oblasti nepochybně v budoucnosti budou vyvíjet – zanikat, ale i vznikat – považují autoři tohoto příspěvku za přínosné analyzovat a popsat určité aspekty v přístupu států, ale i investorů k financování svých ekonomických záměrů právě v souvislostech se vznikem a trváním těchto oblastí, konkrétně EMU.

WIEDERGEFUNDENE UMSICHT AUF DEM KAPITALMARKT MIT STAATLICHEN OBLIGATIONEN AUSGEWÄHLTER MITGLIEDER DER EUROPÄISCHEN WÄHRUNGSUNION

Die Mangerscheinungen der EWU, auf welche bereits bei deren Entstehung einige sich mit optimalen Währungsgebieten befassenden Studien aufmerksam machten, zeigten sich voll in Zusammenhang mit der Finanzkrise, welche in den Vereinigten Staaten ausgebrochen war, und der darauf folgenden Schuldenkrise. Dieser Beitrag konzentriert sich auf ausgewählte Staaten der EWU sowie deren Politik der Finanzierung der Staatsbudgets im Umfeld des einheitlichen Währungsgebiets mit einer gemeinsamen monetären Politik mittels Schuldverschreibungen auf der einen und auf den Ansatz der Investoren, die ihre freien Finanzfonds in diesen Instrumenten des Kapitalmarktes anlegen, auf der anderen Seite. Da sich die Währungsgebiete zweifellos in Zukunft entwickeln werden – Altes vergeht und Neues entsteht –, halten es die Autoren dieses Artikels für einen Beitrag, gewisse Aspekte im Ansatz der Staaten, aber auch der Investoren zur Finanzierung ihrer ökonomischen Absichten besonders in Zusammenhang mit der Entstehung und der Fortdauer dieser Gebiete, besonders der EWU, zu beschreiben und zu analysieren.

NOWO POJAWIAJĄCA SIĘ PRZEZORNOŚĆ INWESTORÓW NA RYNKU KAPITAŁOWYM DOTYCZĄCA OBLIGACJI SKARBOWYCH WYBRANYCH CZŁONKÓW EMU

Niedoskonałości EMU, na które już w czasie jej powstania wskazywały niektóre opracowania poświęcone optymalnym obszarom walutowym (OCA), dały się w pełni odczuć w związku z kryzysem finansowym zainicjowanym w Stanach Zjednoczonych Ameryki i późniejszym kryzysem zadłużeniowym. W niniejszym artykule skoncentrowano się na wybranych krajach EMU, ich polityce finansowania budżetów państwa w środowisku jednolitego obszaru walutowego ze wspólną polityką monetarną za pośrednictwem obligacji z jednej strony oraz na podejściu inwestorów inwestujących swoje wolne środki finansowe w te instrumenty rynku kapitałowego z drugiej strony. Jako że obszary walutowe będą się z pewnością w przyszłości rozwijać – zanikać, jak również powstawać – autorzy niniejszego artykułu uważają za wskazane przeanalizowanie i opisanie pewnych aspektów pojawiających się w podejściu państw, jak również inwestorów do finansowania swoich przedsięwzięć gospodarczych właśnie w związku z powstawaniem i funkcjonowaniem tych obszarów, w szczególności EMU.

REAL CONVERGENCE IN THE EUROPEAN UNION

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Abstract

The aim of the paper is to analyze real convergence process in the European Union. Economic convergence or divergence process is an inevitable part of economic development. An entrance into the European Union is linked to the fulfillment of Copenhagen economic criteria that are associated with real convergence. Therefore, fulfillment of these criteria results into real convergence process in the EU. In this paper, the process of convergence is observed not only for the whole EU, but also separately for the old member and the new member states. Gross domestic product per capita in purchasing power standards is used for researching process of convergence.

Introduction

An inevitable part of economic development is the process of economic convergence or divergence. “*Convergence is a process defined as approaching a certain level or decreasing a difference between two values over time (the difference between the two reduces over time towards a zero value).*” [9, p. 2] In general, convergence means a tendency to diminish differences among economies during time. We can observe two types of convergence – nominal and real convergence.

Nominal convergence concerns to nominal variables such as inflation, interest rates, government deficit and government debt, exchange rate etc. Very often, nominal convergence is analyzed through price level. The indicator for price level is comparative price level (CPL). Real convergence expresses the process when economic performances of different economies, measured by gross domestic product per capita, converge to the same level. According to Slavík, “*By real convergence we can understand for example structural approximation of economies or convergence of used technologies.*” [6, p. 24] While nominal convergence is being connected with Maastricht criteria, real convergence is being connected with Copenhagen economic criteria. Theoretical foundation of real convergence lies in the neoclassical growth theory [9]. This theory assumes the convergence towards a steady status that is identical for all economies and is influenced by a variety of characteristics and parameters such as savings, population growth, degree of depreciation of the capital assets used etc. There are new approaches adding other factors. The endogenous growth theory (new theory of growth) emphasizes for example education and institutional quality, and abandons the assumption of the same steady status. When a country reaches its steady status, the GDP per capita is constant over time.

Real and nominal convergence influence and determine each other. Economies with a lower economic level usually have lower price and wage level. [9] Price level growth has to be accompanied by productivity growth and therefore wage level grows. Otherwise, the decrease of real wage level could result in deterioration of the standard of living.

Economists have been interested in convergence for many decades and this economic and econometric topic has become a researched question of mainstream macroeconomic theorists and econometricians. It was caused by the fact that convergence across economies was suggested to be the main way to test the validity of modern theories of economic growth.

1 Materials and methods

There are more concepts of convergence. Sala-i-Martin defined β -convergence (absolute and conditional) and σ -convergence [5]. Both concepts emerge from the neoclassical theory of economic growth.

The absolute β -convergence presents a situation, where the economic growth in poorer countries (countries with a lower real product per capita) is higher than in richer ones no matter any other factors. The formula of the absolute β -convergence can be written as:

$$\gamma_{i,t,t+T} = \alpha - \beta \cdot \log(y_{i,t}) + \epsilon_{i,t} \quad (1)$$

where i are economies $1, \dots, N$, $\gamma_{i,t,t+T} = \log(y_{i,t+T} / y_{i,t}) / T$, that is economy's growth rate between t and $t + T$ (total number of years under examination) period and $\log(y_{i,t})$ is the logarithm of economy's GDP per capita in the year t . α is a constant. The absolute convergence appears when $\beta > 0$. In case of $\beta = 0$, there is no convergence, and if $\beta < 0$, there is a divergence. The formula implies that there must be a negative relationship between growth and the initial level of GDP. The disadvantage seems to be in fact that it is taking into account only the first (t) and last year ($t+T$) of the given period. The economic development between these years is not taken into account. Sala-i-Martin calls β -convergence the speed of convergence. The higher the speed of convergence, the nearer is β to 1. The absolute β -convergence assumes that all economies tend to grow is the same steady state. In fact, it is not true and there are differences between steady states. If a poor country is already in its steady state, there is no tendency to grow and the growth rate can be zero. In contrary, a rich country can be under its steady state and thus, the growth rate is higher than zero. The economic growth is thus conditioned by variables (e.g. capital stock, propensities to save) that cause different steady states. This is the concept of conditional β -convergence.

The σ -convergence is defined as a situation where countries converge to the same level of economic performance. The σ -convergence appears, when

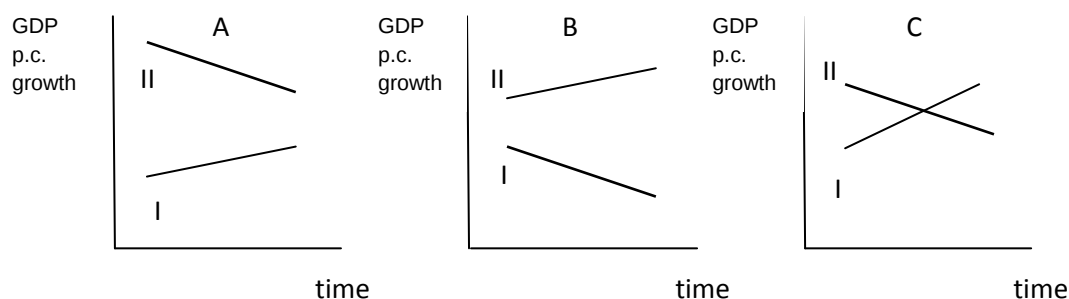
$$\sigma_{t+T} < \sigma_t \quad (2)$$

where σ_t is the time t standard deviation of $\log(y_{i,t})$ across i . σ -convergence can be expressed via correlation coefficient (when countries converge to the same level of economic performance, correlation coefficient is decreasing).

The β -convergence is a necessary condition for the existence of σ -convergence, because for decreasing the dispersion of real per capita GDP levels, it is necessary for economies with lower real per capita GDP to have faster growth than richer ones to catch up. Although the β -convergence is a necessary condition, it is not a sufficient condition for the σ -convergence. In case poorer countries grow and rich countries decline, their levels can meet in time and at the end of the process, with divergence as result.

The following graphs capture different situations of the GDP per capita evaluation in time. In the situation A, economy I has lower GDP per capita, but faster growth than economy II. This leads to β -convergence (the catching-up process) and to σ -convergence (the correlation coefficient is decreasing). The situation B presents a divergence. In economy I, GDP per capita grows meanwhile it decreases in economy II. The situation C can be divided into two periods. First, as economy II grows faster than economy I, there is a β -convergence and a σ -

convergence too. Second, GDP per capita in the economy II exceeds economy I that leads into divergence.



Source: Own

Fig. 1: Convergence and divergence process

The convergence process of the Central and Eastern European transition economies is taken under the attention of researchers due to characteristic macroeconomic fundamentals. A test for convergence supports answering a question whether these countries successfully achieved a certain degree of natural economic integration. Kočanda noted two principal reasons to expect the convergence of macroeconomic variables of Central and Eastern European transition economies – an international trade and fulfilling the Copenhagen criteria necessary for EU entrance. [3] These and other factors encourage the process of convergence and diminishing differences among economies.

Real convergence can be measured by more indicators. Usually, GDP per capita in the purchasing power standard (PPS) is used. PPS remove the impact of different price levels and express the actual volume of goods and services. GDP is not able to intercept values of non market activities, leisure time, the quality of products and the shadow economy. Due to this and other disadvantages of GDP, there are discussions concerning to use other indicators such as national income or disposable income. Despite all drawbacks, GDP remains the most frequent indicator for analyzing convergence.

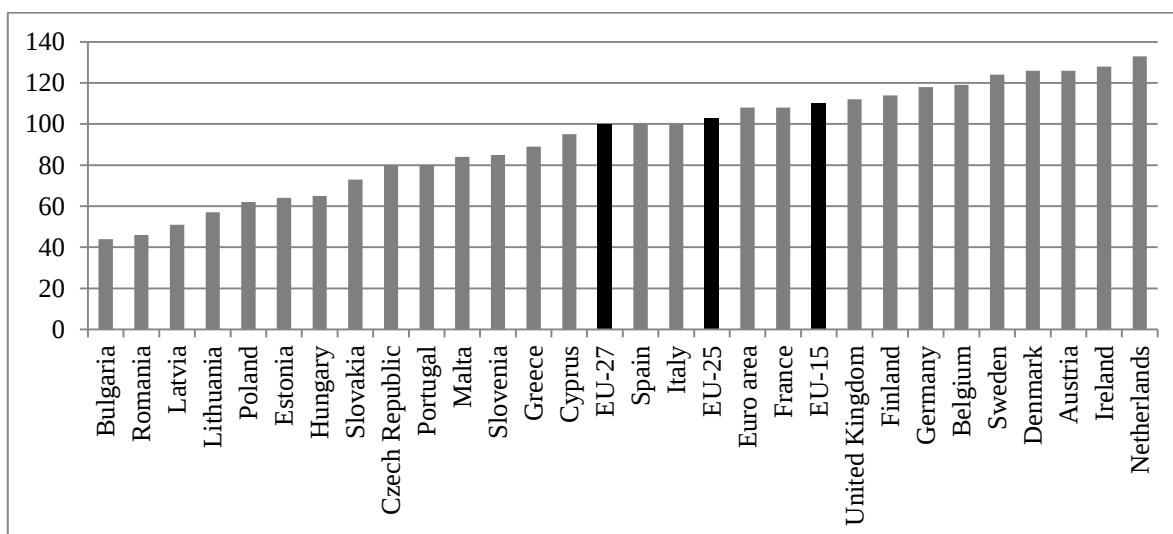
The data used in this paper are obtained from EU's statistical office Eurostat. The observed period is from 1995 to 2010.

2 Results and discussion

Processes of convergence can be researched not only on state level but also on various regional levels. An evidence of convergence on state level cannot be identified with an evidence of a uniform development of all regions. “A view on regional structure of any state shows that it is possible to find prosperous regions characterized by high standard of living, but also many regions with below-average economic performance, high unemployment and other social problems.” [4, p. 8] These regions are mutually influenced in a positive and negative way, i.e. convergence and divergence processes occur. In this paper, the attention is devoted to state level.

The so called old member states, i.e. EU-15, are considered to have a higher economic level and this is proved in Figure 2. This figure contains gross domestic product in power purchasing standard where EU-27 is average. Therefore, the position of states expresses relative economic level to the EU-27 average. The highest relative economic level has Luxembourg (not captured in Figure 2). It reaches 271%. This is the reason why Luxembourg is very often extracted from analysis. All old member states are above EU-27 average. Only Greece and Portugal are under EU-27 average. New member states are under EU-27 average. The Czech Republic (80%) was on the 19th position in the EU in the year 2010 which is the

second best result from all post-communistic states (after Slovenia). Malta and Cyprus, other new member states, are also above the Czech Republic.



Note: Luxembourg = 271

Source: Eurostat

Fig. 2: Gross domestic product of EU states in PPS per capita (EU-27 = 100, 2010)

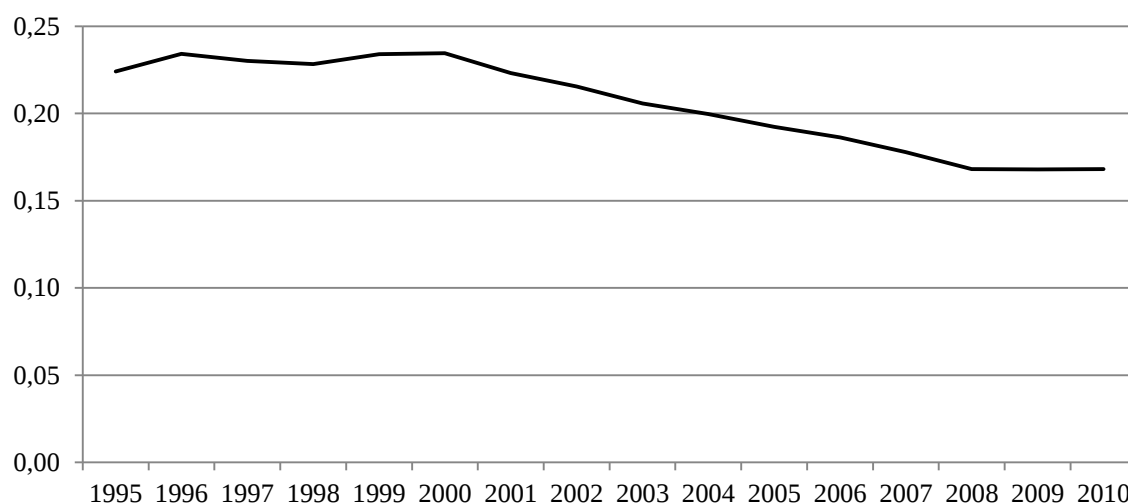
Focusing on new member states (EU-12) in the observed period 1995 – 2010, the greatest real convergence dynamics reported Estonia (from 36% to 64%, that is annual average change 1.87 p.p.), Slovakia (from 47% to 73%, that is annual average change 1.73 p.p.) and Lithuania (from 35% to 57%, that is 1.47 p.p.), see Table 1. In the Czech Republic, there was a divergence process between the years 1995 and 2000, caused by an economic recession. Unequal rate of real convergence of new member states is caused by differences in initial economic level, facilities in key growth factors and realized economic policy. [8]

Tab. 1: GDP per capita in EU-12 (EU-27 = 100)

	1995	2000	2005	2010	Annual average change 1995 – 2010
Bulgaria	32	28	37	44	0.80
Czech Republic	76	71	79	80	0.27
Estonia	36	45	61	64	1.87
Cyprus	87	88	92	95	0.53
Latvia	31	36	48	51	1.33
Lithuania	35	40	53	57	1.47
Hungary	51	54	63	65	0.93
Malta	86	85	78	84	-0.13
Poland	43	48	51	62	1.27
Romania	33	26	35	46	0.87
Slovenia	74	80	87	85	0.73
Slovakia	47	50	60	73	1.73

Source: Eurostat, own calculations

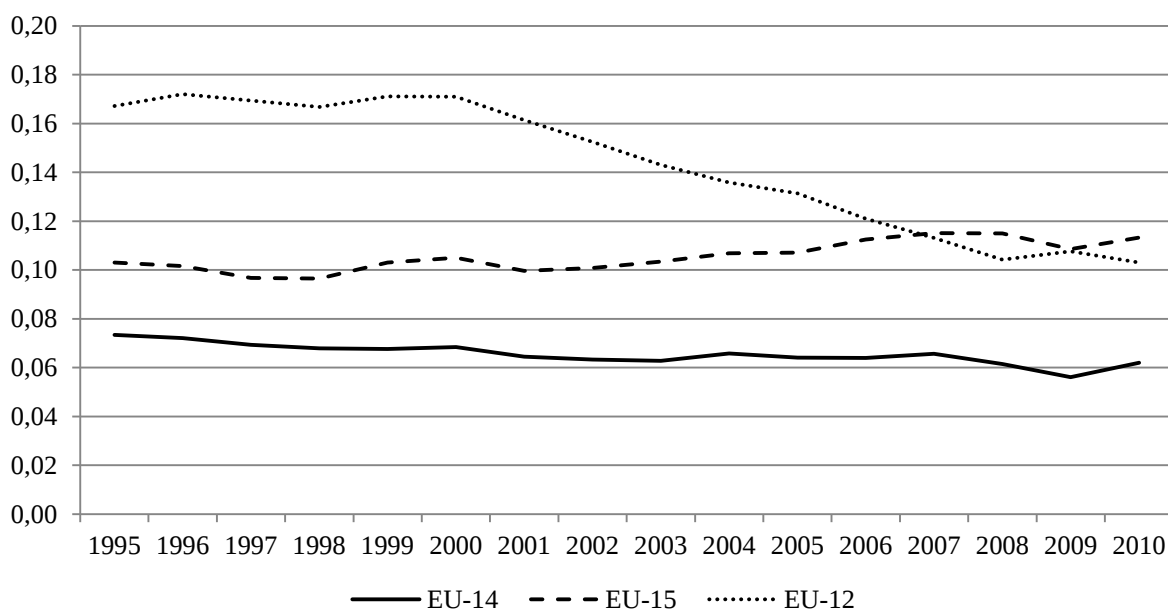
Figure 3 describes the evaluation of a standard deviation of the logarithm of GDP per capita in PPS in the EU-27 in the years 1995-2010. As we can see, there is σ -convergence from the year 2000, thus differences between economies are diminishing. Between the years 2008 and 2010, there is visible stagnation connected to the economic crisis.



Source: Eurostat, own calculation

Fig. 3: σ -convergence in EU-27

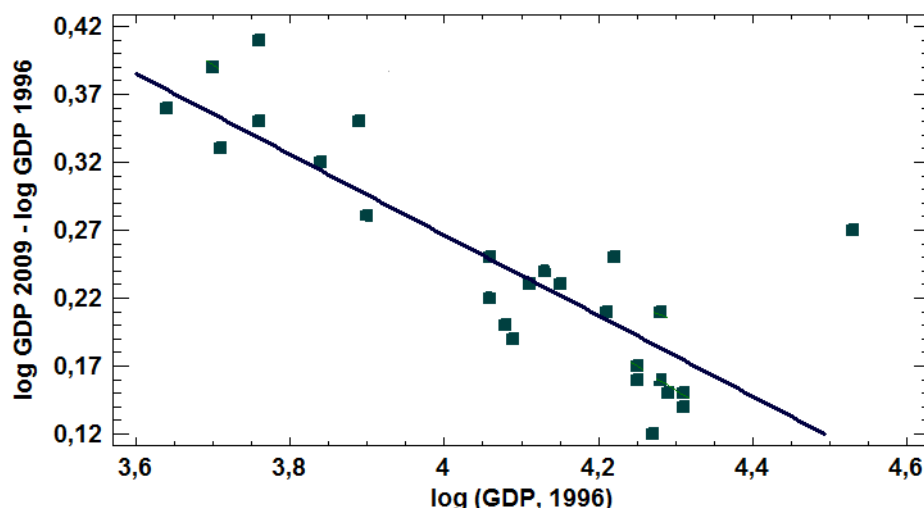
The σ -convergence can be measured for the whole EU, nowadays EU-27, or it can be observed in two main groups, old (EU-14, EU-15) and new (EU-12) member states. Luxembourg was extracted because its economy is highly above other countries and disfigures results, as is visible in the Figure 4, where EU-14 is a standard deviation of old member countries without Luxembourg. It is obvious that for new member states, the process of σ -convergence is more significant than for old member states.



Source: Eurostat, own calculation

Fig. 4: σ -convergence in EU-15 and EU-12

The following Figure 5 shows the β -convergence in EU-27. As mentioned above, the β -convergence means higher growth in poorer economies. This negative relationship between initial level of GDP in PPS (the axis x) and its growth rate (the axis y) is visible in the chart 4. Countries with the lowest initial level of GDP (Bulgaria, Latvia, Romania, Lithuania and Estonia) have a higher growth rate of GDP. These states undergo the catching up process more significantly than states with a higher initial level of GDP.



Source: Eurostat, own calculation

Fig. 5: β -convergence in EU-27

Conclusion

Real convergence is a process of diminishing differences among economies. The most preferable indicator used for measuring is GDP per capita in purchasing power standard. The so called old member states have a higher economic level. Apart from Greece and Portugal, their GDP per capita in PPS are above EU-27 average. On contrary, all new member states are under the EU-27 average. The Czech Republic has the second highest GDP per capita from all post-communistic states, after Slovenia. In the observed period 1995-2010, the greatest real convergence dynamics reported Estonia, Slovakia and Lithuania. Researching the evaluation of a standard deviation of the logarithm of GDP per capita in PPS in the EU-27 in the years 1995-2010, the σ -convergence was proved. Between the years 2008 and 2010, there was stagnation of this process connected to the economic crisis. Focusing on different groups of EU member states and comparing their economic development, it was proved that process of σ -convergence is more significant for new member states than for old member states. This phenomenon is in accordance with the goal of the European Union and the Copenhagen economic criteria. The β -convergence in EU-27 was also proved. States with lower initial economic level grow faster.

The economic crisis has influenced not only the economies of the EU member states, but also the processes of real and nominal convergence. Due to globalization, that allows shift of capital, labor force, technologies and other factors important for economic development, we can assume continuation of real convergence process and diminishing differences among economies.

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REÁLNÁ KONVERGENCE V EVROPSKÉ UNII

Cílem příspěvku je analyzovat proces reálné konvergence v Evropské unii. Proces ekonomické konvergence či divergence je nevyhnutelnou součástí ekonomického vývoje. Vstup do Evropské unie je podmíněn splněním Kodaňských ekonomických kritérií, která jsou ztotožňována s reálnou konvergencí. Plněním těchto kritérií tedy dochází k procesu konvergence v EU. Proces konvergence je v tomto příspěvku sledován nejenom v rámci celé EU, ale také odděleně pro staré a nové členské státy. Pro zkoumání procesu konvergence je využit ukazatel hrubý domácí produkt v paritě kupní síly.

REALE KONVERGENZ IN DER EUROPÄISCHEN UNION

Ziel dieses Beitrags ist es, den Prozess der realen Konvergenz in der Europäischen Union zu analysieren. Der Prozess der wirtschaftlichen Konvergenz oder Divergenz ist ein unvermeidlicher Bestandteil der wirtschaftlichen Entwicklung. Der Beitritt zur Europäischen Union ist durch die Erfüllung der wirtschaftlichen Kriterien von Kopenhagen bedingt, die mit realer Konvergenz gleichgesetzt werden. Der Konvergenzprozess in der EU erfolgt also unter Einhaltung dieser Kriterien. Der Konvergenzprozess wird in dieser Arbeit nicht nur im Rahmen der ganzen EU betrachtet, sondern auch getrennt für alte und neue Mitgliedstaaten. Um den Konvergenzprozess zu untersuchen, wird als Maßstab das Bruttoinlandsprodukt pro Kopf nach Kaufkraftparität benutzt.

REALNA KONWERCENCJA W UNII EUROPEJSKIEJ

Celem niniejszego artykułu jest analiza procesu realnej konwergencji w Unii Europejskiej. Proces konwergencji czy dywergencji ekonomicznej stanowi nieodłączny element rozwoju gospodarczego. Przystąpienie do Unii Europejskiej uzależnione jest od spełnienia ekonomicznych kryteriów kopenhaskich, które są utożsamiane z realną konwergencją. Spełnienie tych kryteriów stanowi podstawę procesu konwergencji w UE. W niniejszym opracowaniu proces konwergencji badano nie tylko w ramach całej UE, ale także oddzielnie dla starych i nowych państw członkowskich. Do celów badania procesu konwergencji użyto wskaźnika PKB wyrażonego według parytetu siły nabywczej.

ANALYSES AND SYSTEM IMPROVEMENT OF OPERATIONS

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Abstract

Contemporary period of business environment is often characterised by the statement that globalisation becomes concept and localisation becomes realisation. Therefore it is up to the businesses to create their own managing systems which will become the sources of comparative advantages, taking into account culture and environment. These systems also consist of the holistic approach to management of production operations stemming from system analytical activity which would map up meeting the requirements of stakeholders. Some possible approaches and their particular application in conditions of the Slovak businesses are dealt with in this paper. One of the decisive prerequisites for the dynamic reaction of businesses to the new requirements of internal and external environment is the analysis of a position of the business within the matrix of effectiveness versus efficiency of operations, mapping the value stream or other analyses. Good analysis can also become a systematic element of operations' improvement, increase in the value adding activities share and finally leading the business towards success.

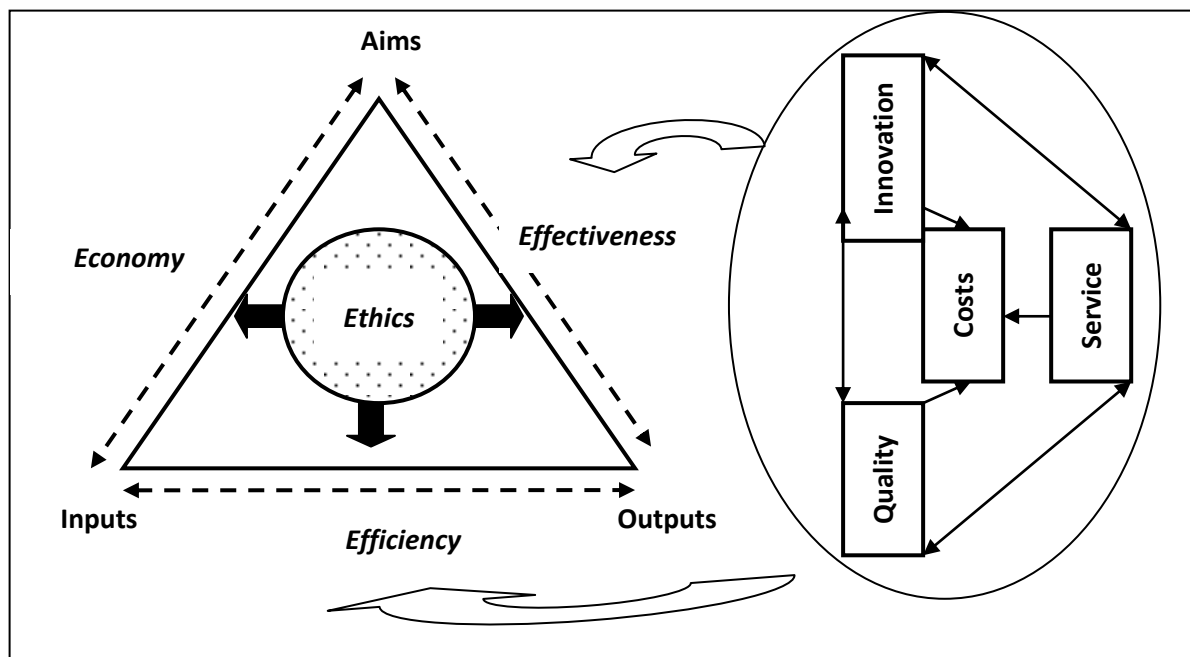
Introduction

Decisive prerequisite for long-term success of the business or another organisational unit within market economy is satisfaction of customers' needs done with a better quality than direct or indirect competition. In contemporary turbulent times, we cannot assume that tomorrow will become extrapolation of today. Continuing individualism of the market, production (search) of goods for clients, not search of clients for products brings about shortening of life cycle of products with all its consequences, especially by the need of dynamic changes including innovation of the product and processes. Managerial approach in such a situation tells us that the dynamic changes in the environment should be perceived more as an opportunity than a threat. We could amend the famous slogan dealing with the certainty of uncertainty that the only certainty becomes change often the only chance for "economic survival" of a business. Currently, in a difficult time of crisis, some businesses prefer the trend of across the board cost cutting. These businesses cut costs of development of new products, marketing etc. These, however, decrease the possibility of revival in a short period of time as well as worsen perspective for the future. Cost cutting in operations especially regarding labour with no added value is not worsening the situation, quite the opposite, it creates the prerequisites for better satisfaction of customers' needs which in many cases is fundamental part of economic survival. The needs of operations' improvement become urgent, because huge pressure by the competition will become a permanent factor. "Turbulence becomes new normality interrupted by regular and fluctuating flushes of prosperity and decrease – including long-term bust leading to recession and crisis. Turbulence has two consequences. One of them is vulnerability against which the society urgently needs a protective system. The other is the opportunity which should be seized." [4] J. Dědková and I. Honzáková state within the difficult turbulent environment: "Every business has to deal with the future on regular basis and react to the fast changing social and economic conditions. It is

necessary to say that there is not a universal manual for dealing with the matters associated with production's intentions, selling of products, pricing, etc., for all solutions can be both correct and incorrect. It is for this reason that the business has to draft its own strategy which would enable it to maintain its existence and achieve prosperity." [3] One's own unique strategy can lead to success only if it is supported by efficient, unified and unique management system and system of holistic approach to introduction of the necessary changes. The system approach presupposes a permanent analysis of the relevant elements of both external and internal environment and a dynamic reaction to the change in some of the system units. The management systems in our business that are being built are often results of copying of the systems of foreign mothers without taking into account cultural differences. A number of businesses thus lose their comparative advantage stemming from the difference due to the unique "tailor made" system. History has given us a number of examples supporting the better quality of such system which led to success by appropriately understood "imitation", not plagiarism, as an acquisition of added value (by recognising national or regional culture).

1 Customers and dimensions of operation system

Globalisation, requirements from micro and macro-environment, high expectations of customers, growing direct and indirect competition poses a question regarding their future reactions to these phenomena for the business. One of the decisive possibilities is the increase in efficiency. Managing and improving efficiency has a number of interpretations according to particular aspects that are emphasised. The road to emotionally and socially mature society perceived through the broad and heterogeneous spectrum of customers hints at the multi-dimensional analysis of business operations. Every customer segment and the relevant stakeholders will prefer various priorities, therefore, the ultimate success is conditioned by broad system approach to satisfaction of requirements. One of the approaches is aimed at the dimensions of the operation system through the "4E" which are (Figure 1): economy, efficiency, effectiveness, ethics.



Source: own

Fig. 1: "4E" Dimensions

The basis for a success of every business is to undertake operations in such a way that they are carried out **effectively** and **efficiently**, i.e. so that they would fulfill customers' expectations and bring them the highest value. At the same time, the operations would be undertaken efficiently, economically and with the best possible application of resources of the transformation process. It is obvious that the decisive prerequisite for this dual task is to learn the preferred values of customers, to be able to measure and analyse efficiency and balanced application of both dimensions and improve them systematically by application of such managerial tools and approaches as decrease of costs per unit, improvement in quality of products and processes, permanent innovation of products and operational processes and also reliable and flexible service. Measuring efficiency by application of a number of criteria, systematic approach and emphasising the future rather than the past and present is a condition for good follow up in managerial intervention into particular dimensions of operation systems in order to reach direction of the business in "Drucker" matrix into the quadrant designed as "success" (Figure 2). Given the complexity of causality of this topic, it is necessary to analyse efficiency exactly by the application of mathematical and expert estimate methods.

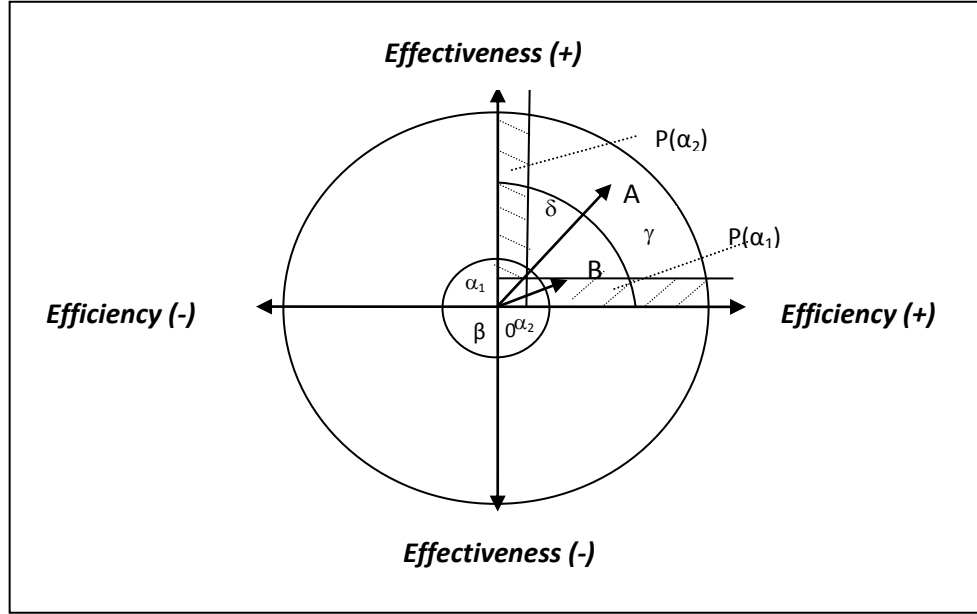
Effectiveness	High	Survival (under threat)	Success
	Low	Decay	Gradual decay
		Low	High
		Efficiency	

Source: [1]

Fig. 2: Matrix of "effectiveness" versus "efficiency"

Determining position of the business within the matrix or development of the position regarding external environment or the previous studied period can become a good starting point for defining the operation strategy and a system of managerial intervention. Drafting the model for analysing contemporary position of the business within the matrix and its application to the conditions of particular business is the subject of research within the project which we are dealing with on the basis of the requirements of several Slovak industrial businesses. Decisive prerequisite for effective and operative application of such model is irrational selection of factors and indices of evaluation of both basic dimensions and also determining "stability zones" (Figure 3).

Based on Figures 2 and 3, it is obvious that independent determining of the current, "gross" position of the business (expressed in figure 3 by points A, B) might not be sufficient for determining the degree of risk of the possible shift to some of the less favourable quadrant or position, expressed by the vector's direction ($\overrightarrow{OA}$, $\overrightarrow{OB}$). Around point "0" there is to some extent unstable environment expressed as the circle area β . Further instabilities are the areas α_1 and α_2 , which are located at marginal axes "effectiveness" and "efficiency". The degree of stability is characterised by the position within one of the particular "stability zones", which are expressed in the model (Figure 3) in the shape of concentrated sectors β , δ , γ . The problem and possibility of degrading into the less advantageous sectors takes place in a situation when point of the coordinates (x_A, y_A) of point A is less than the limits of values α_1 , or α_2 .



Source: own

Fig. 3: Position stability in matrix “effectiveness” versus “efficiency”

The areas under threat are the zones described as the set of points for which the following equations (1) and (2) are true:

$$P(\alpha_1) = \{[x, y]; x \in R, y \in R, y < \alpha_1\} \quad (1)$$

$$P(\alpha_2) = \{[x, y]; x \in R, y \in R, y < \alpha_2\} \quad (2)$$

Stability zone (at least temporal) γ is part of the quadrant for which the following equation (3) is true:

$$\gamma = \{X = [x, y]; x, y \in R: \rho(0, X) > r, x > \alpha_2, y > \alpha_1\} \quad (3)$$

Complexity of solution under particular conditions is given by the sensitivity in determining marginal figures r, α_1, α_2 , by analysing the behaviour in positions close to these margins and sensitivity of these margins regarding decision making. Certain possible variability is granted by modeling through the *fuzzy* space.

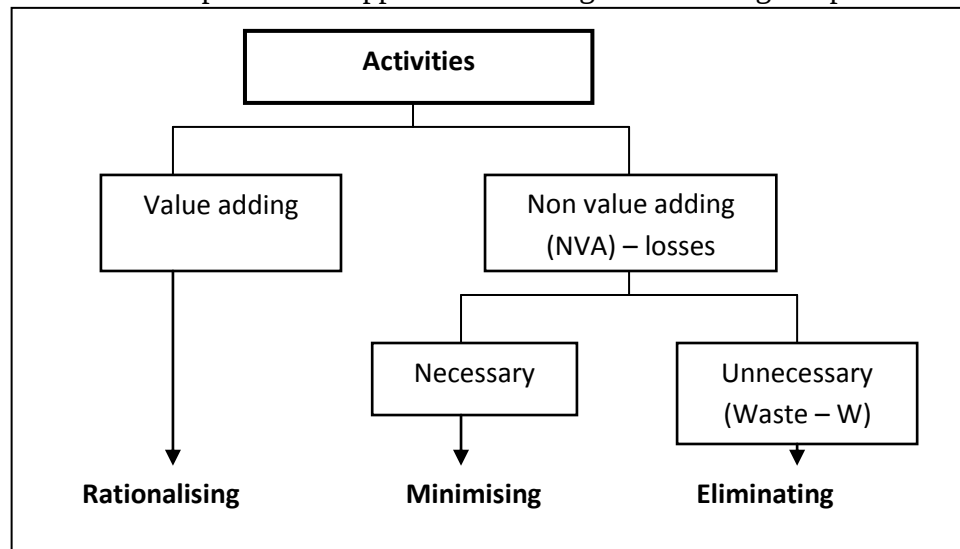
2 Analysis of operations and their improvement

By the application of methodology outlined in Chapter 1 or other sophisticated analytical methods aimed at the whole spectrum of relevant parts of the system, we might discover a need for change in every business, in particular, changes in a certain sphere. In the spirit of the Japanese maxim (Hitoshi Takeda): “Recognise the enemy who is threatening organisation on the inside”. It can give us ideas for “shift towards success” or for acquisition of comparative advantage through improvement of operations in which the inputs are transformed into outputs required by customers. Through the structured systematic analytical approach, it is necessary to determine and select value adding activities from other activities (Figure 4).

Time frames of the activities within an operation will help to determine the share of non-value adding activities and they will become incentive to changes in implementation and their optimising under the scheme in Figure 4. This can be achieved by the application of principles of Lean Production, Kaizen and other modern proven business philosophies and managerial methods applied especially in production processes in connection to “value stream”. Dealing

with the value stream as a sum of all value adding and non-value adding activities is aimed at removal of wasting which can be achieved through a number of basic approaches:

- *eliminating* of evident activity related losses which are non-value adding and not inevitable (W)
- *minimising* (reduction) of operation times (procedures) which are non-value adding but necessary for correct process solving (NVA)
- *rationalising* (optimising) of processes which are value adding (VA) but which require application of managerial methods and techniques, quality management tools, operation analysis and other sophisticated approaches leading to shortening of operation times.



Source: [2]

Fig. 4: Structure of activities and the ways of their improvement

Improvement of production operations (increase in efficiency) which follows analyses includes a broad spectrum of optimising possibilities dealing with the following:

- production planning,
- production scheduling,
- type and distribution of processes,
- amount of units and their transition among operations,
- structuring of work places,
- selection of technology regarding its extent, degree of automatisisation and integration of sub-systems,
- work load – work designing regarding behavioural approaches, ergonomics, etc.[2]

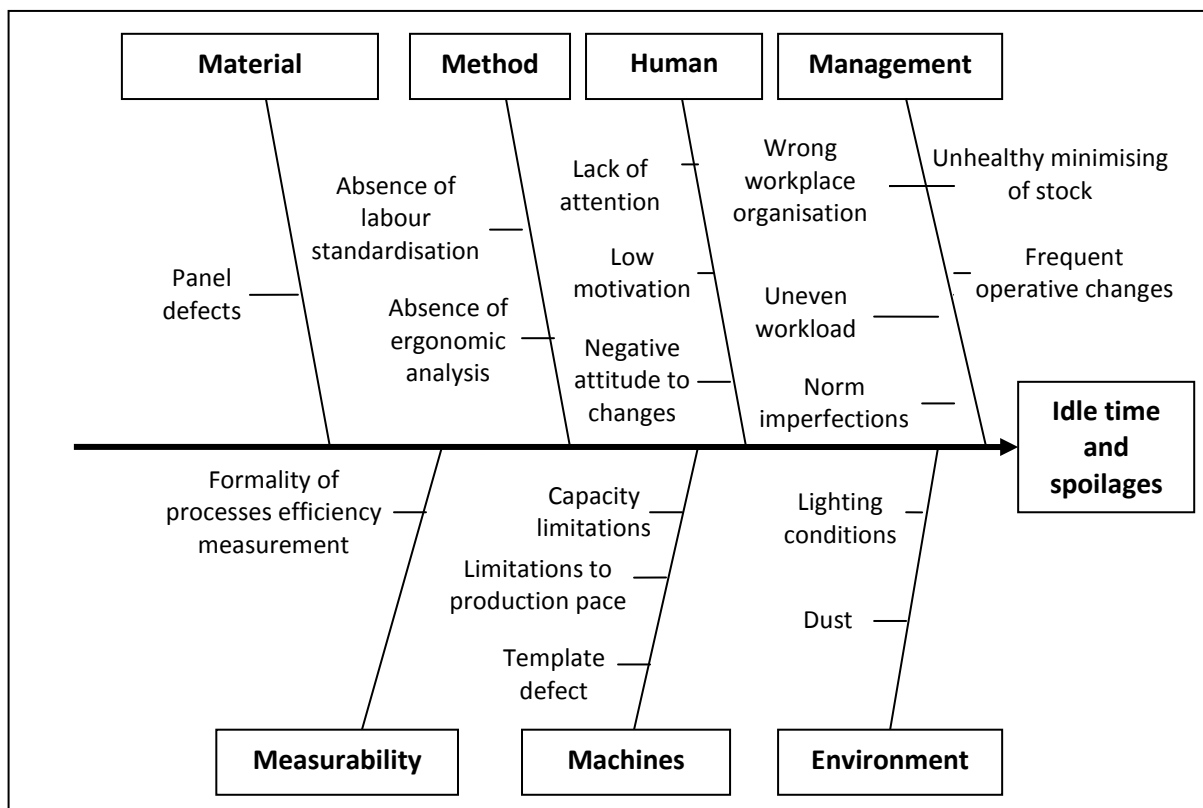
Value stream work means improvement of the whole and in the broad context optimising every part of the whole. Taiichi Ohno founder of TPS said the following regarding the topic: “We are only interested in temporal axis which begins at the moment of customer’s order and ends with the payment. Temporal axis shortens elimination of losses which have no added value”. Value Stream Mapping is one of the most efficient qualitative tools of description and analysis of operating systems for the improvement of fluency and efficiency of the production process. Teachers and students of our university in the study programme “Management” were incorporated in the process of preparation and implementation of this method within “lean” philosophy in a Slovak manufacturing business owned by a multinational corporation (situated in 67 production and technological centres of research and development at global basis). Selection of research in one of the sub-projects is presented in the following chapter.

3 Analysis and improvement in efficiency of selected process

Working on the project dealing with putting forward of the “lean” concept generated a number of various ideas and possibilities of processes’ improvement. This chapter presents results of research in the operation “panel impress”. It is an average difficult process from the point of view of the number of activities and quite stable from the point of view of variability.

Applied methodology included status quo analysis, drafting of the process map and value stream mapping as a tool of communication for determining narrow spots by utilisation of the following methodological approaches:

- identification of reasons for losses causing idle time and spoilages,
- workday snapshot – tool of aggregate nature serving as demonstration of production structure, its scheduling as well as for identifying of so called “gross” failures (e.g. long idle time between series),
- operation snapshot as a type of methodological mapping of processes with the aim to identify “fine” failures, causes of variability of particular activities of followed procedures from the point of view of its justification,
- disaggregation of particular activities which comprise the process into a set of activities and movements by the application of specific analytical tools (MOST methodology – Maynard Operation Sequence Technique), for the creation of ever better prerequisites for the identification of wasting and the following drafting of the system measures aimed at its minimising.



Source: own

Fig. 5: The Ishikawa diagram of causes and effects

3.1 Identification of loss causes

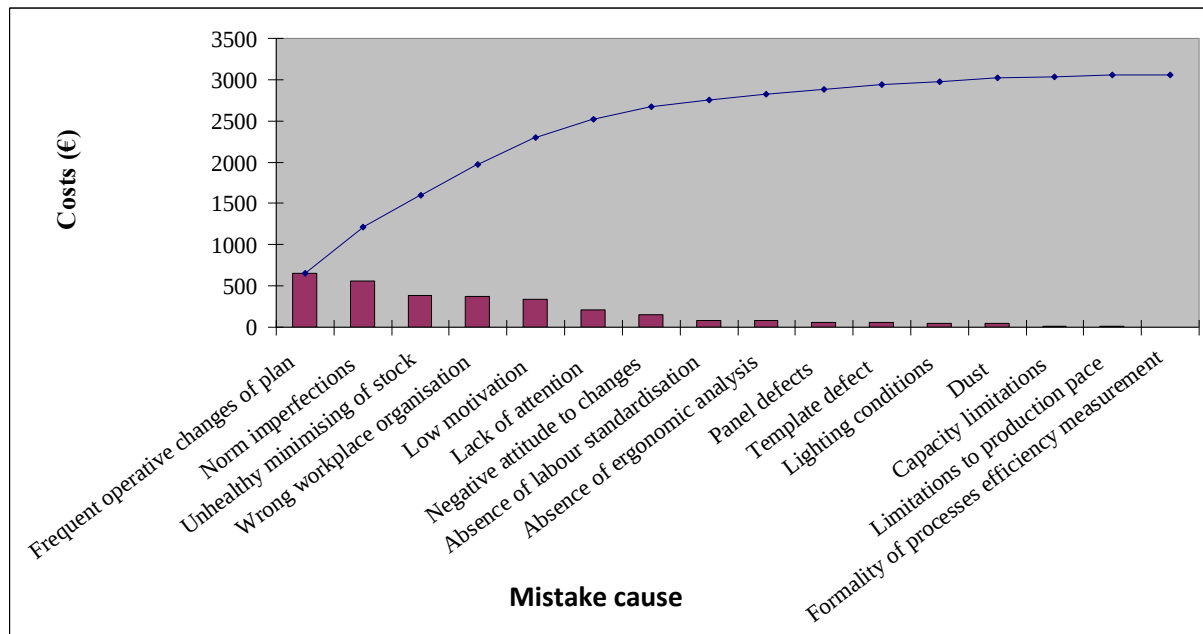
The first step of analysis of losses is identification of the main causes through the method of observation and structured dialogue. The result of such step is identification of loss causes in the form of idle time and spoilage (Figure 5).

3.2 Workday snapshot

Undertaking and analysis of workday snapshots was realised in the following steps:

1. Snapshots of processes in the designated temporal intervals including identification of causes of losses,
2. Undertaking of regress analysis and formulating of dependence equations,
3. Display of summary results of workday snapshots,
4. Calculation of mistake causes into costs and Pareto analysis.

Calculation of monthly costs according to particular causes of mistakes is displayed in Figure 6. From the diagram it follows that the greatest share of shortcomings has the causes group included in the group “management”.



Source: own

Fig. 6: Pareto analysis of mistake causes and effects

3.3 Operation snapshot

Operation snapshot stemmed from processes mapping applying the iterative way according to the following steps:

1. Identification of activities according to value creation and drafting of the process map,
2. Analysis of activities from the point of view of added value creation,
3. Identification and analysis of critical activities through the F-test,
4. The improvement potential analysis of unstable activities.

Results of the selected process activities analysis at creation of two products (Type 1 and Type 2) are included in Table 1 where “P” stands for the number of findings (measurements), “ Φ ” stands for the average value and “s” stands for standard deviation.

Such analysed process is a point of departure for the measures according to above mentioned procedures and structure displayed in Figure 4 with a special approach to the activities in “W” (Waste) category.

Tab. 1: Analysis of activities from the point of view of value creation

Number of activity		Activity	Category	Time – duration [seconds]					
				Type 1			Type 2		
				P	Φ	s	P	Φ	s
Preparatory operations	1	Programming of the imprint machine	NVA	36	8.6	1.47	38	9.8	1.00
	2	Taking the template from the machine	NVA	36	29.8	4.83	38	33.1	1.76
	3	Inserting of the required template	NVA	36	24.5	3.76	38	24.5	1.36
	4	Paint preparation	NVA	36	42.6	8.88	38	32.5	1.55
	5	Inserting of the setting panel	NVA	36	1.3	0.64	38	1.8	0.16
	6	Setting of the machine	NVA	36	374.5	52.6	38	384.5	58.4
	7	Taking the setting panel	NVA	36	1.3	0.20	38	1.6	0.26
Process of impress	8	Inserting the panel into the solution	NVA	120	1.3	0.23	120	1.9	0.22
	9	Wiping of the panel	NVA	120	1.0	0.20	120	1.1	0.21
	10	Impress of panel	VA	120	4.5	0.00	120	5.2	0.00
	11	Taking the panel out of the solution	NVA	120	1.2	0.18	120	1.7	0.24
	12	Visual check 1	NVA	120	3.4	0.42	120	3.3	0.58
	12a	Wiping of wrongly impressed panel	W	2	17.8	3.20	1	16.3	0.00
	12b	Correction	W	2	9.9	1.30	1	12.6	0.00
	12c	Repetition (8+9+10+11+12)	W	2	11.4	0.95	1	14.1	0.00
	13	Inserting of the panel into UV tunnel	NVA	120	1.2	0.16	120	0.9	0.21
	14	Preparation of 2 pieces	NVA	120	1.8	0.19	-	-	-
	15	Hardening of paint in the UV tunnel	VA	120	8.0	0.00	120	8.0	0.00
	16	Taking the panel out of the UV tunnel	NVA	120	1.2	0.18	120	1.1	0.21
	17	Visual check 2	NVA	120	3.5	0.42	120	3.7	0.82
	17a	Storing of the spoilage	W	2	1.2	0.10	1	1.3	0.00
	18	Inserting the panel to transporter	NVA	58	0.9	0.19	51	1.0	0.16
	19	Transporting of the panel (automatic process)	NVA	-	-	-	-	-	-
	20	Storing of the panel	NVA	120	1.0	0.29	120	1.2	0.16
Irregular operations	21	Intra-factory transportation – supply of material	NVA	22	68.2	17.10	23	53.7	7.44
	22	Intra-factory transportation – expedition of material	NVA	22	51.9	14.40	23	50.2	5.39
	23	Filling up of the paint	NVA	6	31.8	6.09	14	28.8	4.90
	24	Detailed check	NVA	49	7.4	0.94	50	7.6	1.11

Source: own

Conclusion

Analyses as the point of departure of the system approach to operations’ improvements should be perceived as part of the puzzle of building one’s own tailor made and wholesome business management system. For a number of reasons, we can look for an example and inspiration in philosophies and models that are part of the Japanese “economic wonder”. We should not be

scared to implement these models into the Czech and Slovak environment, for a number of these elements originated in our cultural environment, e.g. in the management system of Tomáš Baťa. Some of the elements of TQM, stimulation, personal development, rationalisation of economy were well-known and applied successfully in Zlín, Svit and other Baťa towns as early as 80 years ago.

A more serious problem is the fact that in our geopolitical environment the traditional value system is also changing. Success is reduced to material success only and its superiority over morality results in the absence of humbleness and thriftiness, stress and often emptiness. According to J. Porvazník, “professionals declare that the following century in the new millennium should become a century of wisdom and they believe it will happen. In this century once the humanity has managed to leave the industrial era it will advance from the information and knowledge based society to the emotional society, socially mature society. An individual will behave not only as *homo economicus* but more like *homo sapiens*”. [5]. New era requires new quality of human resources, strengthening of “classical” human potential by adding the emotional and moral intelligence. In such a way prerequisites for qualitative changes will be created, in the form of “ecologisation”, humanisation and further requirements for operation improvement. It will surely require innovation of procedures and analysing of operation efficiency in that aspect that the ethical dimension is not neglected. Global acceleration of business processes efficiency improvement stimulates and brings about new business models. The experience from the past decades shows us that the correct direction of efficiency improvement, including positive impact on the whole society should not neglect the local, cultural and ethical dimension which means creation of unique managerial systems bringing the necessary comparative advantage.

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ANALÝZY A SYSTÉMOVÉ ZLEPŠOVÁNÍ OPERACÍ

Aktuální doba v podnikovém prostředí je charakterizována tak, že globalizace se stává koncepcí a lokalizace realizací. Pro podniky vystává úkol vybudovat vlastní ucelené řídicí systémy, které svou jedinečností, zohledněním kultury prostředí, budou zdrojem konkurenční výhody. Součástí těchto systémů musí rovněž být holistický přístup v managementu výrobních operací, vycházející se systémové analytické činnosti, která bude mapovat plnění požadavek širokého podnikového zákaznického spektra (stakeholders). Některé z možných přístupů a jejich konkrétní aplikace v podmínkách slovenského výrobního podniku jsou popsány v příspěvku. Analýza pozice podniku v matici „účelnost“ versus „účinnost“ operací, mapování toku hodnot, popř. další analýzy jsou jedním z klíčových předpokladů dynamické reakce podniků na nové požadavky interního a externího prostředí. Dobré analýzy mohou být také systémovým prvkem zlepšování operací, zvýšení podílu činností přidávajících hodnotu, v konečném důsledku nasměrováním podniku k úspěchu.

ANALYSE VON SYSTEMISCHEN VERBESSERUNG VON VORGÄNGEN

Die heutige Epoche der Unternehmerwelt kann man so charakterisieren, dass aus der Globalisation ein Konzept wird und aus der Lokalisation Realisation wird. Eine der Aufgaben der Unternehmer ist, ihre eigene komplexe Verwaltungssysteme auszubauen, die Dank ihrer Eigenartigkeit, Berücksichtigung des Kulturmilieus einen Konkurrenzvorteil haben. Solche Systeme müssen auf systemanalytischem Basis mit einem holistischen Zugang zur Leitung von Produktionsprozessen verfügen, der die Erfüllung von Wünschen eines weiten Spektrums von Geschäftspartner (stakeholders) registrieren. In dieser Studie werden einige Zugriffmöglichkeiten und ihre konkrete Verwendung unter den Umständen einer slowakischen Herstellerfirma vorgestellt. Die Geschäftspositionen im Rahmen Zweckmässigkeit versus Leistungsfähigkeit, Flow-Werte und andere Analysen sind entscheidende Voraussetzungen der dynamischen Reaktion von Firmen auf neue interne und externe Herausforderungen. Gute Analysen können Systemeinheiten von Verbesserung der Vorgängen, Erhöhung der wertzugebenden Tätigkeit und letztenendlich Erfolg des Unternehmens ergeben.

ANALIZY I POPRAWA SYSTEMOWA OPERACJI

Obecne czasy w środowisku przedsiębiorczym bywają określane również w ten sposób, że globalizacja staje się koncepcją i lokalizacja realizacją. Dla przedsiębiorstw więc powstaje nowe zadanie budowania całościowych systemów zarządzania, które będą poprzez swoją niepowtarzalność, uwzględnienie kultury środowiska, źródłem zalety konkurencyjnej. Częścią tych systemów powinna być również postawa holistyczna, która będzie śledzić spełnianie wymogów szerokiego zakresu klientów z pośród przedsiębiorstw (stakeholders). Niektóre możliwe postawy i ich konkretne zastosowanie w warunkach słowackiego zakładu produkcyjnego są zarysowane w artykule. Analiza pozycji przedsiębiorstwa w macierzy celowości w porównaniu do skuteczności operacji, śledzenie przepływu wartości, ew. inne analizy są jednym z decydujących założeń reakcji dynamicznej przedsiębiorstw na nowe wymogi środowiska zewnętrznego i wewnętrznego. Dobre analizy mogą być elementem systemowym poprawy jakości operacji, podniesienia udziału działań dodających wartości, w wyniku końcowym mogą ukierunkować przedsiębiorstwo na sukces.

TRADEMARKS FOR QUALITY, FOR ORIGIN, AND THEIR SIGNIFICANCE FOR CUSTOMERS ON THE CZECH-GERMAN BORDERLAND

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Abstract

The paper demonstrates the nature and significance of the trademark as perceived by various authors; in the second part of the contribution the author discusses trademarks which guarantee the quality of products and their Czech origin.

The main purpose of the trademarks is to distinguish the product from the one of the competitor, strive for customer loyalty, and attract new customers. A trademark is a collection of perceptions in the mind of the consumer; it raises associations with the properties of the product, and provides benefits that are linked to emotions.

All people create their own feelings, associations, and they respond to the trademark in some way. A trademark with its content and meaning can influence customers more than they may realize. Due to the recent increase of buyers' demand for local (national or regional) products, such products need to be identified and distinguished by the appropriate symbol. In conclusion, the author presents one part of the research carried out with customers in the Czech part of the ERN. The findings prove a preference in purchases of goods with a trademark for the quality, or for the Czech origin.

Introduction

A trademark is a collection of perceptions in the mind of the consumer; it raises associations connected with the properties of the product and provides benefits that are linked to emotions. The main purpose of the trademark is primarily to distinguish the product from those of the competition, to seek the loyalty of existing customers and to attract new customers. The value of a trademark is based on the customer's perspective. It is the result of the comparison (e.g., between the benefit and the cost) and the interaction between the customer and the product. [7] The key to creating the value of the trademark is its knowledge, which can be characterized by the trademark awareness and the brand name image. [6] Consumers are now beginning to demonstrate a greater concern for the quality of the environment. They have begun to buy products which do not significantly encumber the environment, which are of domestic origin, and which need to be properly identified and distinguished.

1 The Nature and significance of a trademark

With the proliferation of different types of trademarks, their importance is growing, and the ways of treating them are also changing. Their functions have changed rather dramatically as they do not serve only to differentiate competing products, but they have a deep symbolic meaning.

According to the American Marketing Association, a trademark may be defined as a name, term, sign, symbol, design, or a combination of these concepts used in order to

identify the goods or services of one or more sellers and to differentiate them from competing products or services. [5]

A more complex definition of a trademark has been proposed by Keller: “The trademark is a product, yet such one that adds other dimensions which differentiate it from other products created to satisfy the same needs.” [4] The scope of the trademark is much broader; it covers goods and services, shops, personalities, places, (non-profit) organizations, sports clubs or ideas.

As pointed out by Low [7], the trademark aims to differentiate a product from other, competing goods. Thus it links the goods with the creator, and therefore the buyer knows who stands for the goods, and what its image is. Therefore, the trademark symbolizes the quality of the goods.

A similar characterization of the trademark has been introduced by Vysekalová [10] who adopts the concept of the “brand symbolism” for the physical design of the trademark (logo, name, colours, style of the title, ...). Elliott [3] discusses the functional and emotional-symbolic significance. The functional significance is given by the properties of the product or service associated with the trademark. The symbolic meaning of the trademark is relevant in cases where the easy option transforms into a secure one, and the customer begins to accept that the characteristics of a product or service presented through the trademark are true. Consumers get identified with the trademark, or reach a high degree of loyalty. Thus the symbolic significance constitutes a summary of how the product is presented, and what people add to this presentation. [3]

1.1 Design of the Trademark

Trademark elements are perceived by the customer either verbally or visually, and they lead to the identification and trademark differentiation. [9] To formulate the **name used in the trademark** is the most important choice to be taken as it often captures the main association with the product. [4] The **logo of the trademark** constitutes its other part; it is a well-chosen logo that helps in building the value and awareness of the trademark. The **slogan of the trademark** communicates the descriptive or persuasive information on the brand. The above mentioned phenomena need to be assembled into one coherent set representing one trademark. Keller [4], therefore, lists six basic criteria by which one needs to select the individual components of the trademark, and thus present its complete representation.

1. Memorability
2. Meaningfulness
3. Popularity
4. Portability
5. Adaptability
6. Protection potential

2 Trademarks for Quality, Informing on the Czech Origin of the product

The demand of shoppers for local (national or regional) products has been recently growing. Marketers have begun to respond to this trend, and they keep trying to find smaller regional suppliers who have been overlooked so far. Products from such manufacturers, however, need to be properly identified and distinguished.

Among such trademarks the following ones can be included:



The national trademark for quality KLASA, which assists customers with their orientation in domestic products – foodstuffs, presentation of their quality, in comparison with competing food. It is guaranteed by the Ministry of Agriculture. Products labeled like this include those which are of Czech origin or local, not imported from abroad, and therefore their impact of transportation on the environment is limited. [12]



The trademark, called “ČESKÝ VÝROBEK” – Czech product is a unique trademark formed in such a way; it is properly registered in the country. Customers and manufacturers have a warranty that the product is manufactured in the Czech Republic and that the Czech manufacturer employs Czech employees. The manufacturers guarantee the quality, safety and wholesomeness of the products; they comply with legal standards, and pay taxes and contributions to the social security and health insurance system in the Czech Republic. Also, environmental standards are met, and a license to use the trademark Czech product for specific products has been granted. [15]



The trademark of the CZECH MADE, granted both for products and for services, expresses that the concrete product or service meets the requirements of the relevant laws and generally binding regulations, and that its properties meet the requirements at least on a level comparable with the quality of foreign products and other domestic products on the Czech market. [15]



The trademark “Český výrobek” – guaranteed by the Food Chamber of the Czech Republic. The products thus marked must not only be made in the Czech Republic, but must also be made of a specified proportion of Czech ingredients (the proportion is different for each category). [16]

2.1 Regional labeling of products “Domestic products”



The system of labeling the regional products and services is coordinated at the national level by the Association of Regional Trademarks, supported by the Ministry of Environment. It does not cover only food but also other products.

Its main objective is to promote traditional regions. Granting the use of this label *“guarantees their quality and friendliness to the environment alongside with their origin and connection to some specific territory.”* [17]

The concept of regional labeling contributes to the economic recovery of the region. Promoting regional trademarks supports local businesses (especially small farmers, artisans, small businesses), and contributes to diversification of economic activities in the countryside and to the revival of local economies. It increases the solidarity of the local population with the region and initiates various forms of cooperation in the region between entrepreneurs, public authorities, non-profit sector and nature protection.

Each region in the Czech Republic has its own character, given by its natural wealth, culture and centuries-old traditions of its people. Also, products and produce originating from a particular region bear part of the character – traditions, culture and the work of local artisans and farmers have been incorporated in them. A regional trademark for local products is one of the options for supporting the local economy.

The significance for the customer of such a product with the trademark "Home Products" lies in:

- **the regional origin** of the product and raw materials,
- **the quality**, freshness, better taste and smell,
- **the lack of harmful impacts of the product on the environment**,
- **uniqueness**, stemming from the relationship to the region (e.g. traditions, local materials, craftsmanship, the theme of the region or other exceptional properties).

Regional trademarks are used to label craft products (e.g. products of woven wood, straw, ceramics, jewelry, snowshoes, lace, glass, furniture, etc.), foodstuffs and agricultural products (bread and pastry, milk, cheese, meat, cereals, wine, fruits, vegetables, beverages, berries, fish, honey, etc.) and natural products (medicinal plants, herbal teas, reed for the construction use, plant extracts for cosmetic purposes, compost, mineral water, etc.). Product trademarks can be granted to both traditional and new products if they meet the prescribed criteria and if the certification commission decides in their favour. [11]

The regional trademarks assist manufacturers with **promoting** their products, with increasing their **sales**, and last but not least, with **boosting the prestige** of products at home and abroad through the good reputation of the region. Trademarks also encourage the involvement of the population in what is happening in the region and mediates contacts between producers and other local actors.

2.2 The trademark “Regional Foodstuff”



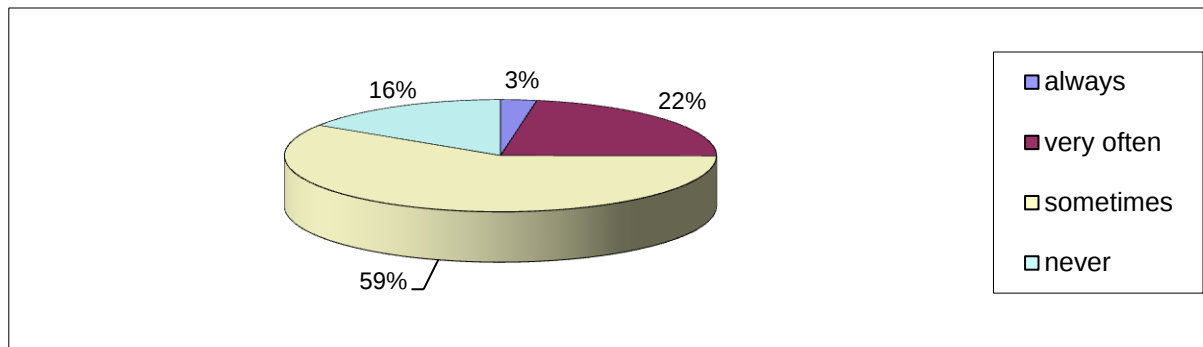
This trademark can be used by selected local manufacturers and retailers for goods produced in the region using the local or domestic raw materials. The share of these resources must be at least 70%. The main ingredient must be 100% domestic in origin. The product *“has at least one property with unique qualitative characteristics that enhance its added value, and ensure its uniqueness in relation to current products available on the market, whereas the regional nature of the product is also a declaration of its exceptional quality features.”* [14]

3 Awareness of the trademarks for quality and origin

Customer preferences for purchases of the goods marked with trademarks for quality and regional labels have been presented in one part of research, which was carried out within the project: *An Analysis of Consumer Behaviour in the Czech-German Part of the Euroregion NISA with Regard to Environmentally Oriented Behaviour of Buyers* at the turn of 2009 – 2010. The project was co-funded from the Objective 3 of the Programme / Ziel3. [2]

The marketing research was conducted with a research sample of 370 respondents from the Czech part of ERN and with 200 German respondents. It mainly focused on customer behaviour. The following results presented are those collected from the Czech territory of ERN.

In spite of the heavy promotion of the labels Klasa and Czech Quality in recent years and the increasing awareness of them, approximately 16% of the respondents stated that these trademarks were not decisive in their selection and purchase of goods. As demonstrated by the following Figure 1, almost 60% of the respondents claimed that they “sometimes” give priority to buying products marked with the trademark for quality, and one fifth of them frequently buy such products.



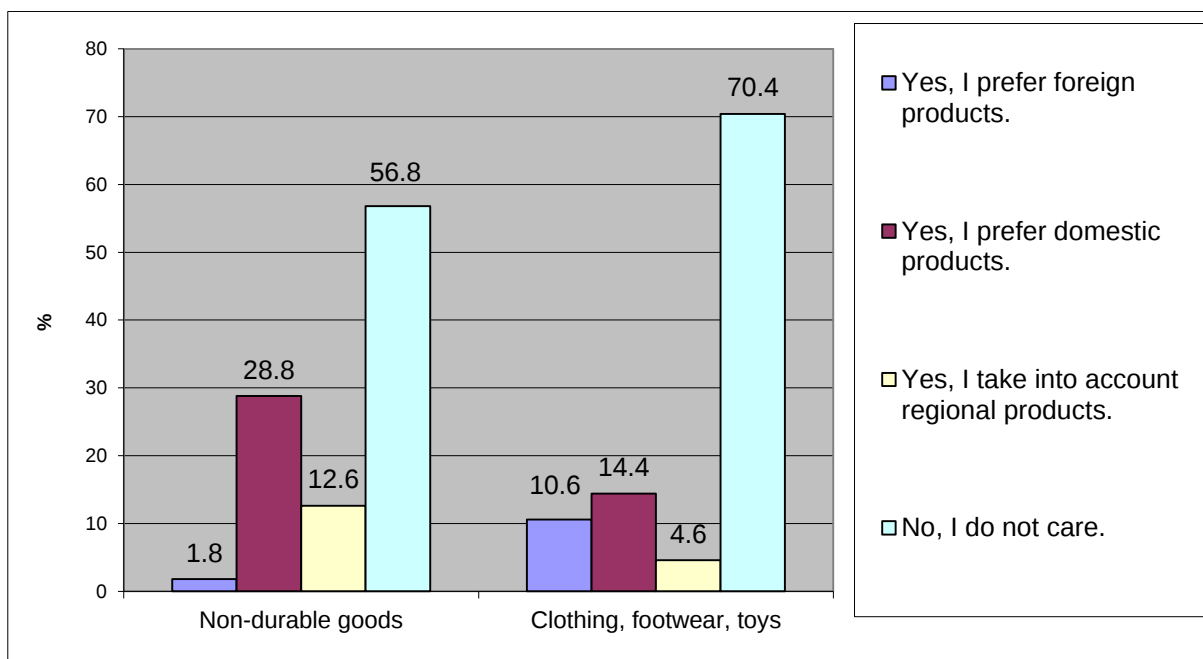
Source: own processing [2]

Fig. 1: Preference for the Quality Trademark

In the past, the majority view of consumers in the Czech Republic was that goods originating from Western Europe or the U.S. are better than the products offered by domestic producers or producers from the former “Eastern Bloc”. Currently, this opinion is not as intense as it used to be, and marketers thus face a challenge to struggle for the enforcement of domestic production in our markets rather than goods from foreign competitors.

As shown in Figure 2, approximately 30% of the respondents prefer mainly domestic non-durable goods, and nearly one eighth of the respondents even stated a preference for regional products. This current preference may increase due to projects of private farmers who make an effort to offer their products directly from their farms or in regional stores, or at the ever-expanding farmers’ markets or through the newly introduced Milk-O-Mats. (In Liberec there are already two of these milk machines).

It can be concluded that more respondents from the age group over 40 years confide in the domestic products; it is (30%) of all respondents in this age group, compared with 26% of respondents in the age group of 21-30 years. For durable goods, this ratio is similar, with the older age category expressing more confidence in domestic production. The vast majority of respondents, however, are totally indifferent to the origin of the product also because some of them consider the range of Czech products rather insufficient. [2]



Source: own processing [2]

Fig. 2: The Influence of Origin of Goods on Purchase

Conclusion

Marketers must become fully aware of the fact that no brand loyalty and high value can be built for a product or service without it having a high quality. Only for a quality product is it worth building a quality product label. Furthermore, it is necessary to communicate this quality to the customers and teach them to perceive it. Therefore, it is necessary to know what customers understand as quality and if it can be partly influenced by the Czech or regional origin of the product. Although it is clear that the perceived quality of the product is linked to the associations with the trademark, Aaker [1] considers this category of the brand value as an independent one. Presently, when the market is sufficiently saturated with products, each customer can choose which product to buy. That is why each manufacturer attempts to provide some added value to the customer, which could also be represented by the trademark for the quality, and origin. [4]

Despite the fact that the delivered research did not confirm it, current consumers do notice the impact on the environment, and they are ready to pay for quality Czech products more to help reduce this phenomenon. [8]

The article presents a range of trademarks that guarantee the quality of products and their Czech origin. Customers create their own feelings and associations, and respond to the trademarks differently. They are influenced by the trademark, its content and meaning more than most of them realize. It is up to the customers how they want to live and what they will buy. A trademark is a truly powerful tool in today's society, which can help customers in their decision making.

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ZNAČKY KVALITY, PŮVODU A JEJICH VÝZNAM PRO ZÁKAZNÍKA V ČESKO-NĚMECKÉM POMEZÍ

Príspevek ukazuje podstatu a význam značky výrobku dle různých autorů a v druhé části se příspěvek věnuje značkám, které garantují kvalitu a český původ výrobků. Smyslem značky je především odlišit výrobek od konkurence, usilovat o loajalitu zákazníků a získat zákazníky nové. Značka je souborem vjemů v mysli spotřebitele, vyvolává asociace s vlastnostmi výrobku a přináší výhody, které se váží k emocím. Každý si vytváří vlastní pocity, asociace a na značku určitým způsobem reaguje. Značka může svým obsahem a významem ovlivnit zákazníky více, než si lze uvědomit. Protože v poslední době roste poptávka části nakupujících po místních (národních či regionálních) produktech, je potřeba takové produkty označit a odlišit příslušnou značkou. V závěru příspěvku je prezentována dílčí část výzkumu, provedeného u zákazníků v české části ERN, který ukazuje výsledky nákupů upřednostňování výrobků se značkou kvality, popřípadě českého původu.

QUALITÄTS- UND HERKUNFTSZEICHEN UND IHRE BEDEUTUNG FÜR DEN KUNDEN IN TSCHECHIEN-DEUTSCH GRENZE

Der Beitrag stellt den Sinn und die Bedeutung einer Produktmarke laut verschiedenen Autoren vor. Der zweite Teil des Beitrags konzentriert sich auf die Zeichen, die die Produktqualität und tschechische Herkunft garantieren. Der Zweck einer Marke ist vor allem, das Produkt von der Konkurrenz zu unterscheiden, die Kundenloyalität anzustreben und neue Kunden zu gewinnen. Die Marke ist eine Gesamtwahrnehmung des Verbrauchers. Sie löst Assoziation mit Produkteigenschaften aus und bringt Vorteile, die mit Emotionen verbunden sind. Jeder schafft eigene Gefühle, Assoziationen und reagiert auf eine Marke in einer bestimmten Weise. Die Marke kann mit dem Inhalt und der Bedeutung die Kunden mehr beeinflussen, als man sich bewusst werden kann. Da in den letzten Jahren die Nachfrage einiger Einkäufer nach lokalen (nationalen oder regionalen) Produkten wächst, ist es notwendig, solche Produkte zu bezeichnen und durch ein entsprechendes Zeichen zu unterscheiden. Im Abschluss des Artikels werden die Teilergebnisse einer Marktforschung präsentiert, die bei den Kunden im tschechischen Teil der ERN durchgeführt wurde und die auf die Ergebnisse der Einkäufe mit Bevorzugung der Produkte mit Qualitätszeichen bzw. mit dem tschechischen Herkunftszeichen hinweist.

ZNAKI JAKOŚCI, POCHODZENIA I ICH ZNACZENIE DLA KLIENTA

W artykule przedstawiono istotę i znaczenie marki produktu według różnych autorów. W drugiej części opracowania uwagę poświęcono markom, które są gwarancją jakości i czeskiego pochodzenia produktów. Istotą marki jest przede wszystkim odróżnienie produktu od produktów konkurencji, dążenie do pozyskania lojalności klientów oraz zdobycie nowych odbiorców. Marka jest zbiorem odczuć konsumenta, wywołuje skojarzenia z właściwościami produktu i przynosi określone korzyści, które wywołują określone emocje. Każdy buduje własne odczucia, skojarzenia i reaguje w pewien sposób na markę. Marka może swoją treścią i znaczeniem wpływać na klienta w większym stopniu, aniżeli można sobie wyobrazić. W związku ze wzrostem popytu dużej liczby kupujących na produkty regionalne lub narodowe, należy takie produkty oznakować i odróżnić odpowiednią marką. W zakończeniu artykułu zaprezentowano częściowe wyniki badań przeprowadzonych wśród klientów w czeskiej części Euroregionu Nysa, pokazujące preferowanie produktów ze znakiem jakości, względnie pochodzenia czeskiego.

SKILLS OF STUDENTS OF THE TECHNICAL UNIVERSITY OF LIBEREC TO USE SELECTED STATISTICAL METHODS IN WRITING THEIR FINAL THESES

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Abstract

This article focuses on summarizing the findings collected within the FRVŠ project number 2218/2011. The project entitled “Improvement and Extension of the Course Statistical Analysis of the Data from Questionnaire Surveys Delivered by E-learning”, was delivered by the authors of the article in 2011. FAQs about the usage of different statistical methods which came from students formulating their final papers acted as the impulse to work on such a project. In this article, the authors focus on identifying the frequency of use of statistical methods in the final papers of students at the Faculty of Economics of the TUL in the years 2007 – 2010. They discuss the causes of the low level of knowledge of statistics among the students of the Faculty of Economics at the TUL and their insufficient ability to use statistical methods.

Introduction

This paper results from the findings collected within the FRVŠ project number 2218/2011 which is entitled “Improvement and Extension of the Course Statistical Analysis of the Data from Surveys Delivered by E-learning”. Frequently asked questions about the usage of different statistical methods that came from students writing their final papers acted as the impulse to propose such a project. The most frequently asked questions referred to handling data collected in questionnaire surveys. The authors were also interested in how frequently statistical methods are used in the final theses, and in what causes the insufficient use of these methods. At the same time, an increasing number of students asked us to help them apply statistical methods in their final theses. They claimed that the previously completed statistical courses did not answer their questions.

So, the authors focus on frequency and kinds of statistical methods used in the EF TUL students’ final theses. At the same time, they try to answer the question why the students are not able to use selected statistical methods.

1 Analysis of the Final Theses of the EF TUL Students in the Years 2007 – 2010

The total number of final theses included in our research is 665. These are the final theses of students graduating from the Faculty of Economics TUL in the years 2007 – 2010. An important fact is that there were only 6 final theses written under the supervision of a member

of the Department of Economic Statistics (one of the departments of the EF TUL) in those years. The truth is the Faculty of Economics TUL has no study programme that would focus only on statistics. Nevertheless, a good knowledge of statistical methods contributes to a good name of every economist. So, what are the findings of our theses analysis?

We have taken into account each EF TUL study programme where, at least, an introduction into basic statistical methods is taught. These basic methods are taught in a specific structure that is divided into 11 parts according to topics taught in the basic courses of statistics. We added one more item among these 11 topics – the item “others”. This item contains topics taught within the frame of other statistical courses, e. g. Econometrics or Optimization methods in economics, or methods learnt by self-studies (these methods are not taught at the EF TUL). Our findings are shown in Table 1.

Tab. 1: *Frequency of various statistical methods in the final theses of the EF TUL students in the years 2007 – 2010*

Method from the sphere of	Relative frequency in %
- descriptive statistics	12.8
- probability	0.9
- theory of random variable	0.0
- analysis of variance	2.4
- chi-square test of independence	2.7
- testing of statistical hypotheses	2.3
- theory of statistical estimation	0.0
- regression analysis	0.6
- correlation analysis	1.1
- time series analysis	7.1
- index numbers	0.8
- others	0.5

Note: The sum of the relative frequencies does not equal 1 because theses which do not contain any statistical methods are not mentioned, neither theses where 2 or more methods are used.

Source: Own research based on the sources [2], [3], [4], [5]

The data in Table 1 represent a relative frequency of each statistical method used in the final theses in percentages. We can see that most students are able to use methods of descriptive statistics. These appear in 12.8% of the final theses. A calculation of arithmetic mean, which is a very simple calculation, was also included among these methods. Therefore, this outcome is not surprising for us. The second most frequently used methods are methods from the sphere of time series analysis. They were found in 7.1% of the final theses. A calculation of mean growth coefficient, or, if you like, a mean growth rate was used the most often from the spectrum of these methods. It is also a simple calculation based on a geometric mean calculation. Hence, this value is not a surprise for us either. Other, more complicated methods appear in a very small number of the final theses. The chi-square test of independence was used in 2.7% of the theses, the analysis of variance in 2.4% of the theses, testing of statistical hypotheses in 2.3% of the theses and the correlation analysis in 1.1% of the theses. The students did not use their knowledge of a random variable and statistical estimations at all.

Let us add one more very important piece of information – no statistical method was used in 75.3% of the final theses. One can object that there are topics which do not require using statistical methods. That is true but, it looks (according to the final theses of the EF TUL students) that most of the topics do not require any statistical methods to be applied. Each

final thesis written during the studies at the EF TUL should contain a certain economic evaluation of the findings presented in the theses. And in most cases, it would be advisable to use some statistical methods for this evaluation.

2 Reasons of Insufficient Usage of Statistical Methods in Final Theses

When we consider the reasons behind the limited ability of the EF TUL student to use statistical methods in the process of writing their final theses; we can find many. Therefore, we will focus on the essential reasons only.

2.1 Reason No. 1 – Aversion to Mathematics and Similar Courses

It is no secret that the faculties specializing in economics are attractive, first of all, to students who do not like technical courses, especially mathematics. It is a big mistake of many students studying faculties of economics. These students do not have a positive attitude to mathematics and similar courses for various reasons, and, therefore, they try to avoid them. At the Faculty of Economics TUL, they have to pass both the exam in maths, and in statistics. Yet, they do not remember much from the lessons because they try to learn everything by heart, and they do not try to understand the principles of the subjects. This way of studying maths or statistics is not ideal, and it is reflected in the inability to apply correct statistical methods while writing final theses.

2.2 Reason No. 2 – Reduction of the Amount of Statistical Courses Lessons

Another reason might be a reduction of “compulsory” statistics courses in several study specializations. At the Faculty of Economics TUL, we can find 3 study programmes and 7 study specializations within these 3 programmes. Let us talk just about the study specializations. The study specialization called Insurance Management offers statistical courses above the standard. In the frame of a 3-year bachelor study there are 5 statistical courses (Descriptive Statistics I and II, Theory of Probability, Statistics for Insurance I and II). However, this study specialization is usually represented by a very low portion of students – in one class there are usually around 20 students. Moreover, the accreditation of this study specialization in this form is finishing and the new one will be aimed at a different specialization called Financial, Insurance and Social Systems in Public Administration which will replace the study specialization Insurance Management. But this new study specialization does not offer as many statistical courses as the original one.

In the frame of the study specializations Managerial Informatics and Business Administration 2 statistical courses in a 3-year study (Statistics I and II) are taught. And let us add that mathematics is also taught in two semesters. We agree with this structure of study.

The problem is in case of other study specializations. Newly created and accredited specializations have fewer statistical as well as mathematical courses. We are writing about the specializations: Economics and Management of International Trade, Economics and Service Management, and Tourism. Students have just one statistical and one mathematical course during a 3-year study (the specialization Economics and Management of International Trade is an exception – mathematics is taught in two semesters)! The members of the Department of Economic Statistics have modified one-semester course called Statistics to cover everything important from the courses Statistics I and Statistics II. It is evident that the quality of the lessons has declined due to the fact that the teachers try to cover nearly every topic of the two-semester courses in one semester. It is hard work for the teachers as well as the students. The response is that the students would like to study statistics in two semesters.

We cannot be surprised that the students are not able to identify what methods they should use in their final theses. They receive too much information in too short a time.

If we look at the two-year follow-up master programmes, we can find 3 study programmes, each of them with 1 study specialization. The specialization Insurance Management has the highest number of statistical courses. 2 statistical courses are taught in 2 years (Selected Chapters of Statistics, Econometrics). Especially the course Selected Chapters of Statistics is a subject that could provide significant data for writing final theses. We consider this number of statistical courses to be sufficient.

The two above mentioned courses are also among the compulsory courses offered to the specialization Managerial Informatics. It is strange that even this specialization provides 2 compulsory statistical courses (Status A) while the specialization Business Administration offers these courses only among compulsorily facultative courses (Status B). Yet, the statistical methods would bring more benefits to this specialization than to Managerial Informatics in the process of writing final theses. We found out that the students of Managerial Informatics use statistical methods in their final theses the least.

As mentioned above the specialization Business Administration did not offer any statistical courses under the title Status A (compulsory) in its two-year follow-up study. Econometrics and Selected Chapters of Statistics were included in Status B (compulsorily facultative). Most students were not able to attend these courses because of lack of capacity. We considered this situation to be unbearable. Therefore, we tried to enforce a new accreditation of Business Administration and insert a statistical course with the Status A there. We were successful. Our new course with Status A is called Statistical Analysis of the Data from Questionnaire Surveys and it will be taught in the first year of the follow-up study. Even though, it is the only statistical course we hope it is a great asset and it will improve the quality of final theses.

2.3 Reason No. 3 – The Final Thesis Supervisor Does not Require Statistical Evaluation

Another important reason why students do not use statistical methods in their final theses is more often is that fact that their supervisors do not require their usage to sum up the findings of the theses. Sometimes the reason is the fact that the thesis supervisor usually does not use these methods in his/her research, so he/she has no need to see it in his/her students' theses. Another reason is lack of time – many final thesis supervisors supervise more graduating students than it is optimal. Then, they are unable to give them as much advice as they need. It happened in the past that a final thesis supervisor from a different department advised his student to consult these issues with someone from the Department of Economic Statistics. But such recommendations are still rare.

Conclusion

In conclusion, let us summarize the most important findings of our survey. Most final theses of the EF TUL students graduating in the years 2007 – 2010 do not include statistical methods. These theses represent 75.3% of the final theses. This number indicates that either the EF TUL students are not able to use statistical methods or they do not like them. There are, of course, some topics which do not require any statistical methods. But, it is just a small sample, certainly not 75%. We have tried to identify the most important reasons which lead to this conclusion. They are: unpopularity of statistics and mathematics among students, reduction of the number of statistical courses lessons at the Faculty of Economics TUL, and impossibility or inability of final thesis supervisors to motivate their students to use statistical methods.

In addition, it is necessary to think of how this unsatisfactory situation could be solved. The members of the Department of Economic Statistics (KSY) are willing to consult the final theses supervised at other departments if a student wishes to consult the evaluation of his final thesis results with the help of statistical methods. We have been successful to enforce one compulsory statistical course into the follow-up study of the main study specialization Business Administration. The members of the Department of Economic Statistics have been systematically working on supporting study materials for statistical courses, which could lead to the fact that students will not have to focus on taking notes, but more on understanding the information covered during the lessons. Let us hope that these steps will result in better final theses with correctly implemented statistical methods.

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SCHOPNOSTI STUDENTŮ TECHNICKÉ UNIVERZITY V LIBERCI POUŽÍVAT VYBRANÉ STATISTICKÉ METODY PŘI PSANÍ ZÁVĚREČNÝCH PRACÍ

Tento článek se zaměřuje na shrnutí zjištění provedených v rámci projektu FRVŠ 2218/2011 s názvem Zkvalitnění a rozšíření výuky předmětu Statistický rozbor dat z dotazníkových šetření formou e-learningu, který byl řešen autorkami článku v roce 2011. Impulem k práci na projektu byly časté dotazy studentů, píšících závěrečné práce, na používání různých statistických metod. V tomto článku se autorky zaměřily na zjištění četnosti použití statistických metod v závěrečných pracích studentů Ekonomické fakulty TUL v letech 2007 – 2010 a zamýšlejí se nad příčinami nízké úrovně znalostí statistiky a malé schopnosti používání statistických metod studenty EF TUL.

DIE FÄHIGKEIT DER STUDENTEN DER TECHNISCHE UNIVERSITÄT IN LIBEREC, BEI DER ERSTELLUNG VON ABSCHLUSSARBEITEN AUSGEWÄHLTE STATISTISCHE METHODEN ANZUWENDEN

Das Ziel dieses Artikels besteht darin, all die Feststellungen zusammenzufassen, welche im Rahmen des Projektes FRVŠ 2218/2011 mit der Bezeichnung „Qualitätssteigerung und Erweiterung des Unterrichts des Faches statistische Analyse durch Umfragen ermittelter Daten in Form von E-Learning“ erzielt wurden. Dieses Projekt wurde von den Autorinnen dieses Artikels im Jahre 2011 durchgeführt. Den Impuls zu dieser Arbeit gaben zahlreiche Fragen von Studenten, die an ihrer Abschlussarbeit arbeiteten, nach der Anwendung verschiedener statistischer Methoden. In diesem Artikel konzentrieren sich die Autorinnen auf die Feststellung der Häufigkeit der Anwendung statistischer Methoden in den Abschlussarbeiten der Studenten der Ökonomischen Fakultät der TUL in den Jahren 2007 bis 2010 und stellen Überlegungen an über die Ursachen des niedrigen Niveaus der Statistikkenntnisse sowie der geringen Fähigkeit der Studenten der ökonomischen Fakultät der TUL, statistische Methoden anzuwenden.

UMIEJĘTNOŚCI STUDENTÓW UNIWERSYTETU TECHNICZNEGO W LIBERCU STOSOWAC WYBRANE STATYSTYCZNE METODY PRZY PISANIU PRAC DYPLOMOWYCH

Ten artykuł skupia się na podsumowaniu ustalen dokonanych w ciągu projektu FRVŠ 2218/2011 pod tytułem „Poprawa i powiększenie edukacji statystyczną danych z badan ankietowych w postaci e-learning”, który został rozwiązany autorkami artykułu w roku 2011. Bodźcem do pracy na projekcie były często zadawane pytania od studentów, piszących prace dyplomowe o zastosowaniu różnych metod statystycznych. W tym artykule autorki się koncentrują nad częstotliwością stosowania metod statystycznych w pracach dyplomowych przez studentów Wydziału Ekonomii Uniwersytetu Technicznego w Libercu w latach 2007 – 2010 i zamierzają nad przyczynami niskiego poziomu umiejętności statystycznych i również małych zdolności korzystania studentów Wydziału Ekonomii Uniwersytetu Technicznego w Libercu z metod statystycznych.

IMPACT OF EMISSION ALLOWANCES ON CAPITAL STRUCTURE OF THE COMPANY

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Abstract

The article deals with a topical issue of emission allowances, and recording of accounting transactions connected with them in accordance with Czech accounting legislation. The main goal of the paper is to point out inconsistent methodology of recording these accounting transactions in the Czech accounting system and to make a proposal of a new method of recording accounting transactions connected with emission allowances in case of gift tax. Next goal is to point out influence of emission allowances on capital structure of the company. The European Union joined the Kyoto Protocol whose task is to reduce emissions of greenhouse gases and fight against the global warming. The Czech Republic as a member state of the European Union accepted the EU environmental legislation into national law system due to this obligation.

Introduction

The United Nations defined the Sustainable Development as "... development which meets the needs of the present without compromising the ability of future generations to meet their own needs". [5] Due to global warming many states such as Australia, Canada, the European Union (EU), Russia and lot of others accepted the Kyoto Protocol that is focused on reduction of greenhouse gases (GHGs). Unfortunately many world largest polluters such as China, India and the United States of America have not signed this protocol. The question remains whether this system that influences the amount of production, expenses of producers located in states that signed the Kyoto Protocol is efficient and does not harm the economies of these countries.

After the Czech Republic had joined the EU, it was important to implement the EU directives that are focused on reduction GHGs into the national law system. Obviously, it affected Czech accounting legislation. Usage and trading with emission allowances influence companies mainly in energy industry, chemical industry, metal processing etc. The European Emission Trading Scheme (ETS) is based on control and reduction of emissions of carbon dioxide (CO₂).

All accounting transactions connected with the emission allowances must be recorded in the accounting and they affect Statement of Financial Position (assets, liabilities), Profit and Loss Statement (expenses, revenues), Cash Flow Statement (cash received, cash paid) and other important outputs for users of accounting information. [3]

The paper contains description of problems of emission allowances and discusses problems and methods of recording accounting transactions in accountancy in present Czech law conditions.

The submitted article was written in accordance with a research project “Trend analysis of sources of financing in business companies in the CZ” solved by the Technical University of Liberec, Faculty of Economics.

1 Implementation of EU environmental legislation into the Czech conditions

The process of implementation of environmental legislation connected with the emission allowances is divided into 3 basic phases that will take 15 years in total. The system is based on caps of allowances that are allocated to the EU member states and make the allowances scarce. [2], [4] The basic idea concerns the reduction of produced emissions or buying allowances from companies that reduce their production of carbon dioxide and save allowances for trading.

The first phase took place between 1st January 2005 to 31st December 2007 and it concerned preparing the system of emission allowances trading with the establishment of price of carbon. According to the EU environmental legislation 95% of allowances were given to producers for free. The rest of allowances were subject of trade.

The present second phase started on 1st January 2008 and it will finish on 31st December 2012. During this phase 90% of allowances are subject to grandfathering and the rest of allowances must be purchased in case of need by the producers. Table 1 presents five largest emission polluters by carbon dioxide in the Czech Republic that obtain emission allowances as grants.

Tab. 1: Five largest polluters of carbon dioxide in the Czech Republic

Order	Name of the Polluter	Amount of grandfathered emission allowances in second phase (pcs)
1.	ČEZ, a. s.	34,202,276
2.	ArcelorMittal Ostrava, a. s.	6,958,508
3.	Dalkia Česká republika, a. s.	4,590,438
4.	Sokolovská uhelná, a. s. - Vřesová	4,478,948
5.	Unipetrol RPA, s. r. o.	3,120,787

Source: own creation based on [11]

The last phase will last from 1st January 2013 till 31st December 2020. This time period will be important for all producers that need to use and buy emission allowances, because it will lead to the situation when there will be hard decrease of grandfathered emission allowances and companies will have duty to buy them or rapidly reduce emissions of GHGs in general. [1]

2 Discussion of problems connected with Czech accounting system versus evidence of emission allowances

Due to the implementation of the EU environmental legislation to the national system it was important to improve accounting legislation with grandfathering of emission allowances, evidence, their trading and consumption. All these transactions affect the financial statements which focus mainly on assets, liabilities and profit or loss of the companies and change stated and presented information for users of accounting information.

Emission allowances present the right to produce and pollute the environment by one ton of carbon dioxide and it is subject of evidence in accounting of the company. In the Czech accounting system the emission allowances are recognized as intangible fixed assets.

Here comes the question whether the emission allowances are really intangible fixed assets. In the Czech accounting system, there is no definition of assets as it is in the case of

International Financial Reporting Standards (IFRS). We can see the next problem in useful lifetime of the allowances, because in the Czech conditions the useful lifetime must exceed minimally one year. However, the consumption of emission allowances is expressed mainly in months from the time of grandfathering or purchase. This situation leads to the controversial discussion if the items could be recognized as current assets. However, unfortunately, it is not possible due to present valid accounting legislation in the Czech Republic.

Purchase of emission allowances is valued by acquisition cost that includes costs incurred in connection with its acquisition. This transaction is recorded as increase of intangible fixed assets (emission allowances) and increase of debt or decrease of bank account due to type of the accounting transaction.

If the emission allowances are grandfathered to the company for free, the item is valued by replacement value and in the Czech accounting it is recorded as government grants and the increase of intangible fixed assets valued to the time of subvention. This grandfathering of emission allowances is subject to gift tax in case of producers of electricity. The gift tax is recorded as an increase of expenses and increase of debts to the financial authority. Actual tax rate of gift tax for emission allowances is 32% in year 2012.

2.1 Case study – Recording of transactions connected with emission allowances in accordance with Czech accounting legislation

The content of this article is one of the outputs of the research project “Trend analysis of sources of financing in business companies in the CZ”. The transactions that are mentioned below are fictitious and serve as explanatory means. Figure 1 presents a current method of recording accounting transactions connected with emission allowances that is in accordance with accounting legislation. The following example is based on a situation when a company obtains emission allowances in the amount of CZK 20,000,000,- for free as grants as it is presented by transaction no. 1. This transaction presents an increase of fixed assets (Emission allowances) and current liabilities (Grants). Transaction no. 2 shows gift tax in the amount of 32 % from grandfathered allowances. This transaction affected expenditures of the entity (Other taxes and fees) and current liabilities (Other direct taxes). The company consumed emission allowances in the amount of CZK 19,000,000,- and this situation can be seen in transaction no. 3. The operation affected expenditures of the entity (Other operating income) and current liabilities (Grants). The fourth transaction presents decrease of current liabilities (Grants) and increase of revenues (Other operating revenues) at the same amount as it was in the case of consumption.

Balance Sheet based on recording of emission allowances in accordance with Czech accounting legislation as of 31st December 201X is presented in Table 2.

Tab. 2: Balance Sheet as of 31st December

Balance Sheet as of 31st December, 20XX (in CZK)			
ASSETS		LIABILITIES	
FIXED ASSETS		EQUITIES	
019 – Emission allowances	1,000,000	Loss	-6,400,000
		OTHER/CURRENT LIABILITIES	
CURRENT ASSETS		347 – Grants	1,000,000
		345 – Other direct taxes	6,400,000
Σ ASSETS	1,000,000	Σ LIABILITIES	1,000,000

Source: own calculation

Total amount of assets and liabilities are CZK 1,000,000. The company is in loss which makes CZK 6,400,000 and other/current liabilities make CZK 7,400,000.

D 019 - Emission allowances C		D 347 - Grants C	
1) 20,000,000,-	3) 19,000,000,-	4) 19,000,000,-	1) 20,000,000,-
D 345 - Other direct taxes C		D 538 - Other taxes and fees C	
	2) 6,400,000,-	2) 6,400,000,-	
D 548 - Other operating income C		D 648 - Other operating revenues C	
3) 19,000,000,-			4) 19,000,000,-

Source: own creation according to valid Czech accounting legislation based on [6,7,8]

Fig. 1: Recording of emission allowances in accordance with Czech accounting legislation

2.2 Case study – Proposed possibility of recording of emission allowances

Nevertheless, here comes a question whether the presented situation in Figure 1 is correct with the idea on the principle of “true and fair view” and if the goal of this subchapter is to outline an idea of better presentation of gift tax within this concept. It is important to point out that the following transactions are not in accordance with Czech accounting legislation, it is a proposal of new methodology. At the end there is comparison of transactions influence on capital structure of the company.

As it is clear that the grandfathered emission allowances are reduced by gift tax and recorded grants could be reduced in case of true and fair view of presented accounting information by the company. This method of accounting of emission allowances is widely solved and discussed by many auditors and experts focused on accounting.

Figure 2 presents a proposed method of recording accounting transactions that could express them more in accordance with the principle of a true and fair view. The example is based on the same situation that a company obtains emission allowances in the amount of CZK 20,000,000,- for free as grants as it is presented by transaction no. 1. The transaction influenced increase of fixed assets (Emission allowances) and current liabilities (Grants and Other direct taxes). However, this transaction is divided into 2 parts where the account no. 019 – Emission allowances increases in the amount of CZK 20,000,000,-, the grants are decreased by gift tax and it is totally CZK 13,600,000,- and gift tax is calculated as the increase of debt on the account no. 345 - Other direct taxes - CZK 6,400,000,-.

The company consumed emission allowances in the amount of CZK 19,000,000,- and this situation can be seen in transaction no. 2 that influenced expenditures (Other operating income) and fixed assets (Emission allowances). The third transaction presents the decrease of grants (current liabilities) and the increase of Other operating revenues (revenues) in the amount of real grants CZK 12,920,000,-.

D 019 - Emission allowances C		D 347 - Grants C	
1) 20,000,000,-	2) 19,000,000,-	3) 12,920,000,-	1) 13,600,000,-
D 345 - Other direct taxes C		D 648 - Other operating revenues C	
	1) 6,400,000,-		3) 12,920,000,-
D 548 - Other operating income C			
2) 19,000,000,-			

Source: own creation based on [10]

Fig. 2: Proposed possibility of recording of emission allowances

The basic idea of this proposed possibility of recording of emission allowances is based on the fact that the grants that are taxed by the state in the amount of 32% mean real decrease of grants. Emission allowances that were given as grants for free to the producers of electricity are subject of gift tax. The assets are increased by emission allowances and, on the other hand, there must be recorded gift tax as the increase of expenses too due to the method that is valid in the Czech Republic. There may be a scientific discussion about the valid and proposed method of recording transactions connected with emission allowances due to the principle of a true and fair view as it is clear from both methods.

Balance Sheet based on proposed possibility of recording of emission allowances as of 31st December 201X is presented in Table 3.

Tab. 3: Balance Sheet as of 31st December

Balance Sheet as of 31st December, 20XX (in CZK)			
ASSETS		LIABILITIES	
FIXED ASSETS		EQUITIES	
019 – Emission allowances	1,000,000	Loss	-6,080,000
		OTHER/CURRENT LIABILITIES	
CURRENT ASSETS		347 – Grants	680,000
		345 – Other direct taxes	6,400,000
Σ ASSETS	1,000,000	Σ LIABILITIES	1,000,000

Source: own calculation

Total amount of assets and liabilities is CZK 1,000,000. The company is in loss which makes CZK 6,080,000 and other/current liabilities make CZK 7,080,000.

When comparing Table 2 and Table 3, we can see the difference between liabilities. Both parts of liabilities (equity and current liabilities) are different. Total amount is the same but the loss and account no. 347 - Grants are different. This difference is caused by different methods of recording transactions connected with gift tax. The structure of assets is not affected by described methods of presentation of the accounting operations. It is therefore clear that the results of selected indicators of financial analysis will be different.

Conclusion

It is a good idea to reduce emissions of GHGs due to global warming and force producers to buy new technologies that are more efficient and environmentally friendly. On the other hand, it is clear that the states that are the largest polluters in the world have not signed the Kyoto Protocol. Here comes a question if this treaty makes sense and does not only harm economies of states that committed themselves to reduce emissions of GHGs. From the accounting legislation point of view, it is important to record all transactions connected with emission allowances with their impact on assets and liabilities. As could be seen from the above examples, these transactions widely influence capital structure and the expenses of the accounting entity. The importance of trading with emission allowances during the third period will grow and these transactions will influence expenses and revenues of companies in two ways. If companies were able to reduce emissions, the revenues would rise from saved and sold emission allowances. Were the technology not more environmentally friendly, there would be seen a large impact on expenditures of producers.

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VLIV EMISNÍCH POVOLENEK NA KAPITÁLOVOU STRUKTURU SPOLEČNOSTI

Příspěvek se zabývá aktuální problematikou emisních povolenek, jejich zaznamenáváním v účetnictví v souladu s českou účetní legislativou. Vzhledem k tomu, že se Evropská unie zavázala dodržovat Kyotský protokol, jehož cílem je boj proti globálnímu oteplování prostřednictvím redukce množství skleníkových plynů v atmosféře, došlo k implementaci evropských směrnic i do české legislativy. S povinným používáním emisních povolenek u vybraných podniků se objevila potřeba správného účetního zaznamenávání jednotlivých transakcí. Hlavním cílem článku je poukázat na diskutabilní zaznamenávání účetních operací spojených s emisními povolenkami v českém účetnictví. Příspěvek obsahuje polemiku nad účtováním darovací daně v případě emisních povolenek, které jsou přidělovány zdarma podnikům prostřednictvím dotací.

DER EINFLUSS VON EMISSIONSERLAUBNISERTEILUNGEN AUF DIE KAPITALSTRUKTUR EINER FIRMA

Dieser Beitrag befasst sich mit der aktuellen Problematik der Emissionserlaubniserteilungen sowie deren Aufzeichnung in der Buchhaltung in Übereinstimmung mit der tschechischen Buchhaltungslegislative. Im Hinblick auf die Tatsache, dass sich die Europäische Union verpflichtet hat, das Kyoto-Protokoll einzuhalten, deren Ziel im Kampf gegen die globale Erwärmung durch Reduktion des Ausstoßes von Treibhausgasen in die Atmosphäre besteht, wurden europäische Richtlinien auch in die tschechische Legislative implementiert. Mit der obligatorischen Verwendung von Emissionserlaubniserteilungen bei ausgewählten Unternehmen ergab sich die Notwendigkeit einer richtigen buchhalterischen Aufzeichnung einzelner Transaktionen. Das Hauptziel dieses Artikels besteht darin, auf eine diskutable Aufzeichnung buchhalterischer Operationen, die mit Emissionserlaubniserteilungen in Zusammenhang stehen, im tschechischen Rechnungswesen hinzuweisen. Dieser Beitrag enthält eine Polemik über die Berechnung von Schenkungssteuern im Falle der Emissionserlaubniserteilungen, welche den Unternehmen kostenlos in Form einer Dotation zugeteilt werden.

WPŁYW POZWOLEŃ EMISYJNYCH NA KAPITAŁOWĄ STRUKTURĘ SPÓŁKI

Artykuł poświęcony jest aktualnemu zagadnieniu związanemu z pozwoleniami emisyjnymi i ich ujmowaniem w księgowości zgodnie z czeskimi przepisami z zakresu rachunkowości. Ze względu na to, że Unia Europejska zobowiązała się do przestrzegania Protokołu z Kioto, którego celem jest walka z globalnym ociepleniem poprzez redukcję ilości gazów cieplarnianych w atmosferze, również w czeskim ustawodawstwie uwzględniono dyrektywy unijne. W wyniku obowiązkowego stosowania pozwoleń emisyjnych w przypadku niektórych przedsiębiorstw pojawiła się konieczność właściwego księgowego ewidencjonowania poszczególnych transakcji. Głównym celem artykułu jest pokazanie dyskusyjnego ewidencjonowania operacji księgowych związanych z pozwoleniami emisyjnymi w czeskiej rachunkowości. W artykule przedstawiono polemikę dotyczącą księgowania podatku od darowizn w przypadku pozwoleń emisyjnych, które są przyznawane przedsiębiorstwom bezpłatnie za pośrednictwem dotacji.

CURRENT TOOLS AND NEW TRENDS IN ENTERPRISE PERFORMANCE MEASUREMENT

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Abstract

This article deals with the issue of an enterprise business performance measurement, as the topic discussed quite frequently in the recent times. Evaluation of enterprise success in a simple and quick way is one of the most important requirements set by owners and investors. The article covers tools used for the enterprise performance measurement divided into three basic development phases. Enterprise performance measurement is commonly used in practice and is quite reasonable, however it does not allow for a conclusive analysis of causal relationships. Therefore it is necessary to involve new methods and models that assess the company performance not only from the quantitative point of view, but also with regard to quality. In the article conclusion the individual approaches to enterprise performance measurement are subject to comparison and their general characteristics as well as possibilities for use considering their advantages/disadvantages are mentioned.

Introduction

Under the current economic conditions enterprise managements must quite often deal with the question how to set the criteria of success, i.e. how to set the required goals. The basic goal of a vast majority of enterprises in a long-term perspective is the market value maximization. Constant changes bringing new obstacles on the one hand and new opportunities on the other hand are quite characteristic for the current economic development. Significant changes in the business environment are notably related to a phenomenon called “globalization”. Under these conditions the enterprises realize their activities without any protection against competitors. In order to grow even further or at least to survive they must flexibly respond and adapt their activities to the tough conditions of the competitive environment. The faster the enterprise registers, analyzes and reacts to the change, the more successful it is in the market. These changes bring a completely new view on the assessment of enterprise success and raise questions about what indicators and methods may be applied to measure the enterprise performance. Financial performance of an enterprise is one of the important indicators to measure the enterprise competitive position and to determine how attractive it actually is in the eyes of potential investors. Therefore the company performance/efficiency shall be not only measured from the quantitative point of view, but also with regard to quality. Economists from all over the world have been dealing with this question on everyday basis. There are many approaches and methodologies for business performance measurement. We can perceive business performance measurement both from financial or non-financial perspectives.

Until recently the classical financial approach to business performance measurement prevailed in the Czech Republic. Nowadays especially large international concerns are more open to new methods and start to apply them in economic practice to evaluate their efficiency. Gradually we can see a move towards evaluation of business performance and efficiency

using indicators considering the creation of value for owners. Therefore the business performance measurement newly incorporates both financial and non-financial criteria. Vocational economic papers describe multiple methods and models that may be used to measure business performance of enterprises. In practice some of these methods are applied more and some less.

1 Enterprise performance

The “enterprise performance” term has been used quite frequently recently, however, a clear definition is missing. The term is mainly used to describe the key essence of the enterprise existence, its success and ability to survive. The purpose of the enterprise performance measurement is to evaluate the state of the enterprise, which is considered as important for later decision-making by owners and management. Moreover it is a necessary presumption for further successful management of the enterprise. Performance is often equated to efficiency which is the ability of an enterprise to achieve certain results. In this regard it is possible to define the company performance as the ability to make the best of its resources and to increase its value on a permanent basis. Another possible definition is offered by Solař and Bartoš [8, p. 19] “enterprise performance is defined as the level of achievement of predefined results by individuals, groups, organization and its processes”. Another definition by Neumaierová and Neumaier [4, p. 24] may be applied as well, saying that “enterprise performance is generally connected with the growth of market value, i.e. the effort for the most efficient use of own as well as foreign capital aimed at the maximization of the market value in the long-term perspective. This is closely connected with profit generation or at least creation of conditions for generation of profit in future”. From these definitions it is obvious that each enterprise should strive after the most efficient utilization of its own as well as foreign resources. There is no conflict between the above mentioned definitions, however, each of them sees the company performance and efficiency from a different perspective.

While measuring the business performance, the purpose must be clearly defined - this means it must be clear who will make use of the results measured. Different requirements will be set by owners, managers, creditors, banks, investment companies, financial authorities or rating companies. Also the time factor is very important (the period the measured results relate to). We can measure the business performance in the past, assess the current performance or focus on the expected future development of the company. Another question, as mentioned by Neumaierová [5, p. 13], is “for whom the value is created (maximized) by the company” – whether for the owners of capital, shareholders or other parties concerned (stakeholders). The stakeholder group includes a) internal stakeholders represented by providers of capital - owners, creditors, employees and managers; b) external stakeholders represented by suppliers, customers, municipality, government etc. The answer to this question can be found in what was said by Brealey [1, p. 13] “image the company net income as a cake with many people claiming their stake (piece of cake). These people are managers, employees, creditors as well as other shareholders who provided their money to the company. All these entities, claiming their piece of cake, are mutually interconnected by various contracts, stipulations as well as gentlemen’s agreements”. Another question would be “who is concerned in the results of the company performance?” The circuit of evaluating entities is quite wide. Internal entities cover owners, management, employees or trade unions. Entities from outside of the company are investors, customers, banks, business partners, government as well as general public. Each of these entities judges the results on the basis of its own criteria so the views of individual economic entities may differ significantly. Owners and investors for instance strive after appreciation of their capital invested in the company. From the investment point of view it is necessary for them to know that their investments are treated in their interest. On the other hand for the management it is important that the company prospers, has stable stake in the

market as well as liquid and profitable operation. Employees are especially concerned about optimum salaries, keeping their jobs in the company, as well as about social benefits the company offers. For customers it is important that the company estimates their needs and requirements correctly, offers them premium product, on time and at reasonable price. Suppliers require the company to pay their receivables on time and therefore they especially check the level of indebtedness, liquidity and solvency. Business partners require from the company to meet its obligations towards them on time as their existence depends on the company vitality. And finally the government is mainly concerned with the information regarding payments of taxes and proper utilization of subsidies, if any. [3], [5], [6], [10]

1.1 History of methods used for business performance measurement

The importance of the value-based management conception has been growing recently, especially because of the worldwide globalization and the related interconnection of markets. The value-based management may be easily labeled as the new managerial paradigm. From the accounting assessment point of view only those companies that generate profit are considered as being successful. This perspective is however – from the value-based management point of view – quite deficient, as it is important to earn such profit so that - according to Neumaierová [5, p. 12] – “the following statement applies: return on capital invested by owners > alternative costs of own capital”.

Tab. 1: Development of the business financial performance indicators by generations

Generation	Gen 1	Gen 2	Gen 3	Gen 4	Gen 5
Main target	Profit margin	Profit growth	Return on capital invested	Creation of value for owners	Long-term strategic management
Indicators used	Profit/sales	Profit maximization	ROA, ROE, ROI	EVA, MVA, CFROI, SVA	Market value maximization

Abbreviations:

ROA – return on assets, ROE – return on equity, ROI – return on investment, EVA – economic value added, MVA – market value added, CFROI – cash flow return on investment, SVA – shareholder value added

Source: [7, p. 14] + own resources

The value-based management conception has its roots at American business schools in the eighties of the 20th century. The main reason for more extensive application of the value-based management conception was – as far as the related literature says – boom in the field of business consolidations and acquisitions realized in USA, especially in the late eighties and at the beginning of the nineties of the 20th century. The aim of these consolidations and acquisitions was to come up with such strategies, the realization of which would improve the value of the company in order to avoid consolidation/merger with other businesses. The primary goal of an enterprise is to maximize the wealth of shareholders, which means that the financial managers must strive after maximization of the enterprise market value. This goes hand in hand with the commitment of the management to duly consider the positive as well as negative (risk) factors connected with each individual decision to be made. But how can the financial managers recognize whether their decisions are good or bad? This is assured by the market itself – it sends the required signal. Shareholders who are not satisfied with the

management actions may sell their shares. If this is the case of multiple shareholders, the stock value will go down. This would be a clear signal for the management pointing to inadequate decision-making and a kind of remainder of the main purpose of their employment. Until now many criteria were developed to express the level of business performance/efficiency. These criteria are based on theoretic knowledge, but also on practical experience. While looking at the history of business performance measurement indicators, we can see a clear development and changes of opinions in individual generations. This development of opinions is clearly shown in Table 1. [1], [5]

From Table 1 it is obvious that the first and the second generations are only aimed at the evaluation of profit, sales and margin of profit. The next two generations are a bit more focused on indicators such as return on capital employed, investments or currently preferred indicator referred to as EVA (economic value added). The move from the traditional financial indicators to modern indicators used for the business performance measurement is obvious. The last, fifth generation is focused on the strategic system of business performance measurement that does not assess the company efficiency using the financial indicators only, but uses some non-financial indicators as well.

1.1.1 Traditional approach to business performance measurement

Financial indicators represent a solid basis for the traditional approach to the business performance measurement. Financial analysis dates back to the times when the history of money started. The United States of America made the biggest contribution to the development of the modern financial analysis. In continental Europe, especially in the German-speaking countries, the term “balance analysis” appeared first. Even here the balance analysis had been gradually renamed to “financial analysis”. The traditional indicators especially reflect the performance of the business process implementation and measure the efficiency of the company capital. Amongst the traditional indicators of the company financial performance belong the indicators of the absolute value of profit that may be expressed in multiple ways, such as net profit, pretax profit etc. Also the indicators of cash flows are widely used (cash flow from operational, financial or investment activities or total cash flow of the company). Other traditional indicators are the indicators of the rate of return, expressing the efficiency of the resources spent, such as return on sales, return on assets, return on equity etc.

The essence of the financial analysis is a comparison of the data collected. The resulting information is used for the assessment of the general financial situation of the company, helping to reveal the company strengths and weaknesses. In the literature and in practice we see multiple methods and approaches to financial analysis. The disadvantage is that neither procedures nor the terminology of financial analysis are legislatively stipulated and therefore in some cases it may be quite difficult to compare not only different companies, but sometimes even the individual stages in the history of a single company. Most of the traditional indicators make use of information from financial statements as input data for financial analysis. This is often criticized as these data are not adjusted by risk and inflation factors, ignore the current value of money as well as the opportunity costs.

Another problem of the traditional indicators used for the business performance measurement is the fact that they cannot do without additional information. This information relates to the development of liquidity, solvency, indebtedness, structure of assets or financial structure. This additional information is also taken from the financial analysis of the company. Despite the fact that there are many critical comments against the financial analysis, it is still considered as one of the most important tools of financial management. Financial analysis

evaluates the past and current development of the company operation from various points of view thus giving some solid resource data for future decision-making. [7], [10]

1.1.2 Modern approach to business performance measurement

Based on the criticism of the traditional indicators, new approaches to business performance measurement were developed. Traditional indicators measure the business performance on the basis of accounting data. This is the reason why companies have recently preferred to measure their performance from the market value growth perspective. Because of the criticism of traditional indicators new approaches have been introduced more widely to the business practice by companies willing to measure and manage their business performance. As stated by Mařík and Maříková [3, p. 12], modern indicators for business performance measurement should meet the following criteria: a) to have as close relation to stock value as possible, whereas this relation should be demonstrable by statistical calculations; b) to require the widest possible use of information and data from the company accounting system, including indicators from the financial statements of the company. The purpose of this requirement is to reduce the labor input needed for the calculations and also to improve the level of communicativeness in practice; c) to overcome the existing objections against accounting indicators of financial efficiency. Especially it is necessary to include the calculation of risks and consider the amount of locked-up capital; d) to allow for the business performance measurement together with the company valuation. The above mentioned requirements for modern indicators used for the business performance measurement should be completed by another two important aspects. As stated by Pavelková and Knápková [7, p. 43]: a) the indicators should facilitate clear and transparent identification of their links to all levels of management; b) the indicators should support value-based management.

It is quite difficult to find the business performance measurement indicators that would meet all the above mentioned requirements. The modern financial indicators used for business performance measurement cover the economic value added, market value added, shareholder value added and cash flow return on investment. [7], [10]

1.1.3 Complex management methods

In the current turbulent environment that brings constant changes, companies must respond flexibly. In order to be competitive and survive, the financial indicators are not enough. Companies must focus on non-financial areas of their operation too (efficiency measurement of products, processes, customers etc.). These methods and models are aimed at history, present time and especially at future. The individual methods and models may be used independently or combine them, as deemed necessary.

Complex approaches to business performance measurement have been widely extended over the last 20 years. Non-financial indicators have started to be introduced because the traditional financial indicators give historical data only and nothing for instance about the value for customers, level of customer satisfaction or level of innovation. Due to these reasons the non-financial indicators have started to be used more widely, as they also give information about attractiveness of products, satisfaction of customers, potential for technical innovations, improvement of employees' qualification etc. Companies that want to be successful and have some competitive advantage must include in their business performance measurement both financial and non-financial indicators and criteria that are compliant with the company strategy.

From complex approaches to business performance measurement we can mention the fundamental managerial conception MBO (Management by Objectives) developed by P. D.

Drucker. This method is based on setting and mutual acknowledgement of goals and the subsequent assessment of the level of their achievement. The goals must be set in all areas of activities and each decision made must be in full compliance with the overall goal. Another well-known method is BSC (Balanced Scorecard) developed in 1992 by R. S. Kaplan and D. P. Norton [2]. The main essence of BSC is setting goals, indicators and intentions on the basis of company vision and strategy. The indicators are then viewed from four basic perspectives: financial, customer, internal business processes and learning & growth. For practical use there are many complex approaches available. One of them is TQM (Total Quality Management) developed in the sixties of 20th century in Japanese companies. This model is aimed at the quality management. In order to implement TQM successfully, it is important to determine and understand customer requirements and to implement such measures so that the production will run without any defects. Also stimulation program must be implemented to motivate the employees for achievement of the quality goals. Model Excellence was developed by the European Foundation for Quality Management (EFQM). This model is widely extended in Europe. It applies the principles of TQM and is suitable for all types of organizations disregarding their size and engagement. Benchmarking allows companies to compare their own results with the results of competitors. This method helps to learn from the best in the relevant field and to improve the business performance and competitiveness. It is possible to compare companies from the same branch but also companies from different branches. Target Costing conception comes from Japan. It was first applied in 1970 in Toyota (where it has been being successfully used until now). The essence of this conception is a detailed market research on the basis of which the company attempts to develop products at costs considered by the customer as reasonable. The sustainable development method is characterized as the development that facilitates meeting requirements of the existing society without compromising/limiting the possibility of meeting requirements of future generations. The sustainable development covers long-term and global perspectives and incorporates four dimensions (human, institutional, economic and environmental). KPI (Key Performance Indicators) is the system aimed at the monitoring of business performance by means of so called key performance indicators. It makes use of economic indicators, quality indicators, indicators aimed at efficiency of processes, IT services, inventories but also combined indicators. Selection of suitable indicators for KPI system differs in individual companies based on specific branch the company operates in.

In theory as well as in practice we can find even more methods and models used for business performance management and measurement. Because of the limited space we neither can mention nor briefly characterize all of them. [2], [8], [9]

2 Assessment of methods used for business performance measurement

Three basic approaches may be used to assess the company business performance. Each indicator, method or model has its advantages and disadvantages. It depends on each individual company what methods and models will be used to measure its business performance. Recently complex methods were developed to measure the business performance and efficiency. They are no longer tools for evaluation only, as they are used for management purposes as well. Some of the oldest but still used are classical indicators of financial analysis. Their main disadvantage is a time delay – they inform us about activities that happened in the past. Modern approaches used for the business performance measurement are mainly based on the principle of business value creation. The main disadvantage of these modern approaches is rather a demanding way of obtaining the input data and difficult determination of the costs of equity. In order to eliminate the above mentioned disadvantages of both approaches, complex methods and models are introduced that evaluate the total efficiency of a company and are not exclusively focused on financial

indicators, but on some non-financial indicators too. The aim of these complex methods and models is not only to measure the business performance, but also to manage the company. The assessment of the development of approaches to measurement of business performance/efficiency including main advantages/disadvantages is shown in Table 2.

Tab. 2: *Assessment of methods and models for performance measurement*

	Traditional approach (financial analysis)	Modern approach (EVA, MVA, CFROI)	Complex managerial models (BSC, TQM, EFQM, Six Sigma, benchmarking and more)
Characteristics and application	often used for the determination of positive and negative trends in the company	methods drafted on the basis of the value based management conception	used for the assessment of the overall business performance
	provides feedback to strategic management	may be used even for some complex managerial models	focused on financial as well as non-financial indicators
	the indicators measured are used for the assessment of the development of economical flows, revenues etc.		they not only measure the business performance of the company, but are often used for the management of factors affecting the performance
	works mainly with data from the financial accounting		
Advantages	simplicity	easy and comprehensible expression of the company success	used for the assessment of the overall business performance
	easy-to-understand	the value is acknowledged by the market	they are used for strategic management
	elimination of subjectivity at selection of indicators	may be used for interconnection between operational and strategic management	they discover causes, relations and effects
Disadvantages	it is based on the accounting system which - on the other hand - is based on the accrual principle	complicated calculation of indicators	their implementation is rather time-consuming
	it does not take changes of assets market prices into account	quite demanding acquisition of input data	their implementation is rather expensive
	the information about the root cause of the problems is missing	it is not always clear and obvious what is the result of the managerial work and what is caused by other circumstances	problems may occur with the strategy formulation and its translation into operational management conception

Source: Own resources

Conclusion

The business performance measurement using financial indicators has been quite commonly used in practice and is well-founded without any doubts, however it often does not allow to clearly analyze the related causal relationships. An enterprise must be tracked and assessed in a systematic manner. Recently the reputation of companies is not a result of good products only, but other aspects are assessed as well, such as environmental footprint, care of customers, employees etc. Financial indicators are not sufficient as they do not contain the qualitative aspects of individual elements of the company system and their mutual relations.

There is a conflict between the need of the company to be competitive in the long-term perspective and rather inflexible model of financial accounting created space for introduction of new methods and models. Financial indicators are no longer considered as the only adequate tool for setting the strategies in the information age enterprises. Companies must select such strategies that bring their investments in customers, suppliers, processes, technologies and innovations bring some added value. The methods for strategic management of business performance are comprehensively focused on risky areas of the company. The application of suitable indicators for business performance measurement leads to improvement of competitiveness. On the other hand better competitiveness means benefits not only for the owner, but also for employees, customers, suppliers and the government.

Finally we can only add that the utilization of suitable indicators and appropriate strategy leads to improvement of business efficiency and thus also to its competitiveness.

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SOUČASNÉ NÁSTROJE A NOVÉ TRENDY V MĚŘENÍ VÝKONNOSTI PODNIKU

Článek se zaměřuje na problematiku hodnocení úspěšnosti podniku, která se v posledních letech stává velmi diskutovanou otázkou. Zhodnocení ekonomické výkonnosti podniku jednoduchým a rychlým způsobem je jedním z nejdůležitějších požadavků vlastníků a investorů. V článku jsou uvedeny nástroje používané pro měření výkonnosti podniku, a jsou rozděleny do tří základních vývojových etap. Hodnocení výkonnosti podniku pomocí finančních ukazatelů je v praxi běžně využíváno a má své opodstatnění, ale neumožňuje jednoznačnou analýzu příčinných vztahů. Proto je nutné využívat nové metody a modely, které hodnotí výkonnost podniku nejen z pohledu kvantitativního, ale i kvalitativního. V závěru článku je uvedeno porovnání přístupů k měření výkonnosti podniku s uvedením jejich obecné charakteristiky a s možnostmi jejich využití a s uvedením jejich výhod a nevýhod.

GEGENWÄRTIGE INSTRUMENTE UND TRENDS IN DER MESSUNG DER LEISTUNGSFÄHIGKEIT EINES BETRIEBS

Dieser Artikel konzentriert sich auf die Problematik der Bewertung des Erfolgs eines Unternehmens. Diese Problematik wird in den letzten Jahren immer mehr diskutiert. Die Bewertung der ökonomischen Leistungsfähigkeit eines Betriebs mittels einer einfachen und schnellen Methode ist eine der wichtigsten Anforderungen aller Firmenbesitzer und Investoren. Im Artikel werden die bei der Leistungsfähigkeitsmessung angewandten Instrumente angeführt und in drei Entwicklungsstufen eingeteilt. Die Bewertung der Leistungsfähigkeit eines Betriebs mit Hilfe von Finanzindikatoren wird in der Praxis immer wieder genutzt und hat ihre Berechtigung; aber sie ermöglicht keine eindeutige Analyse der ursächlichen Beziehungen. Daher ist es notwendig, neue Methoden und Modelle zu verwenden, welche die Leistungsfähigkeit eines Betriebs nicht in quantitativer, sondern auch in qualitativer Hinsicht bewertet. Den Schluss des Artikels bildet ein Vergleich zwischen Ansätzen zur Messung der Leistungsfähigkeit eines Betriebs mit deren allgemeinen Charakteristiken, Vorteilen und Nachteilen sowie mit den Möglichkeiten von deren Nutzung.

WSPÓŁCZESNE INSTRUMENTY I NOWE TRENDY DOTYCZĄCE POMIARU EFEKTYWNOŚCI PRZEDSIĘBIORSTWA

Artykuł dotyczy kwestii oceny sukcesu odnoszonego przez przedsiębiorstwo, która jest w ostatnich latach coraz bardziej dyskutowanym zagadnieniem. Proste i szybkie dokonywanie oceny efektywności ekonomicznej przedsiębiorstwa jest jednym z najważniejszych wymagań stawianych przez wszystkich właścicieli i inwestorów. W artykule przedstawiono instrumenty stosowane do pomiaru efektywności przedsiębiorstwa, które podzielono na trzy podstawowe etapy rozwoju. Ocena efektywności przedsiębiorstwa przy pomocy wskaźników finansowych jest w praktyce często wykorzystywana i ma swoje uzasadnienie, nie umożliwia jednak jednoznacznej analizy zależności przyczynowo-skutkowych. Dlatego należy wykorzystywać nowe metody i modele, które oceniają efektywność przedsiębiorstwa nie tylko pod względem ilościowym, ale też jakościowym. W zakończeniu artykułu przedstawiono porównanie podejść do pomiaru efektywności przedsiębiorstwa z podaniem ich ogólnej charakterystyki, z możliwościami ich wykorzystania oraz wskazaniem ich zalet i wad.

FITNESS LEVELS IN PUPILS OF ROMANI AND NON-ROMANI ORIGIN AT PRACTICAL ELEMENTARY SCHOOLS

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Abstract

The aim of this study was to assess and compare the level of physical fitness of 9- to 11-year-old pupils of Romani and non-Romani origin at practical elementary schools in Prague. Five motor tests (Standing broad jump; Repeated sit-ups; 12-minute run; 4 x 10 metre shuttle run; Sit and reach test) were used to assess physical fitness. The study confirmed that Romani children had a higher level of physical fitness than non-Romani children, with the differences being more pronounced among boys than among girls. The most equal performance among Romani and non-Romani children of both sexes was recorded in the running endurance test. A disproportion thus arises between the lower demands placed on Romani pupils in physical education classes and the physical abilities of this group of children. Therefore, higher demands should be placed on this socially disadvantaged group of children than on other pupils for whom total or partial atypical motor development is typical.

Introduction

Practical elementary schools [translator's note: these are known in the Czech Republic as "základní školy praktické"; formerly the term "zvláštní školy" was used, which is equivalent to the English term "special schools"] as a part of special education are the educational facilities most frequented by individuals with intellectual disabilities (ID). These facilities are primarily intended for children with mild ID (IQ 69-50); however, the composition of pupils attending them varies greatly. A great number of pupils are socially disadvantaged (a family environment with a low social and cultural standing, threat of socio-pathological phenomena), with Romani children being the most extensive group. Romani children are very often placed in practical elementary schools (PES) as a result of overall neglect (educational, hygienic, and cultural) and language unpreparedness (Prunner, 1994; Rokosová, 1998; Klíma, 2000; Šotolová, 2001; Portik, 2003). As a rule, they are thus not limited by ID on a biological basis; pseudo-retardation is typical for them. They can be generally classified among those PES pupils where the deterioration of the level of their intellectual abilities is determined both socially and genetically (polygenic inheritance). In this connection, Vágnerová (1995) mentions the term pseudoinheritance¹.

Many experts (Dolejší, 1987; Vlačihová, 1988; Plášková, 1991; Balvín et al., 1997; Klíma, 2000; Nečas, 2002) are justified in calling attention to the practice of automatic placement of Romani children into these types of schools; however, due to a lack of valid data, it is not easy to estimate the number of such Romani pupils².

¹ Deviations in mental development do not relate to changes in genetic predisposition, but to the way of life in the family; therefore, they may be handed down to the next generation through the same child rearing methods and lifestyles.

² Balvín et al. (1996) allege that Romani children attend special schools 28 times more often than children from majority society. According to Kupčíková (2002), 60% of the children in attendance at such schools are Romani children; according to Balabánová (1997), this number represents more than 80% of children from the Romani

Based on an analysis of the content of pedagogical-psychological documentation pertaining to 153 monitored pupils at PES in Prague, a large number of Romani children in our research (about 68%) were placed into a group where the deterioration of intellectual abilities, often not uniformly, occurs on the basis of such social disadvantage or educational neglect combined with polygenically conditioned lower levels of ability. These pupils in reality do not belong in PES and their placement into schools intended for pupils with ID was, according to Švarcová (1999), erroneous from the start. Many of them – thanks to intensive, qualified special educational care – tend to overcome their initial problems and deficiencies and soon exceed their peers with ID, and their performance exceeds regular PES requirements, thereby achieving proportionate accomplishments without exerting greater effort.

The pronounced heterogeneity of pupils attending PES demands the application of different pedagogical processes to the various groups, with physical education and extracurricular physical activities not being an exception. In this respect, lessons are very demanding for teachers – provided, of course, that they do not impose the same demands on all students equally. It is, thus, necessary to take into account internal differentiation in lessons that would allow the pedagogue to manage the lesson more effectively and, thanks to this, would even enable individualization respecting the special development and personality traits of each student possible.

Ethnic origin (provided that a racially non-discriminative approach is observed) or aetiological handicap, based on which students are classified into relatively homogenous groups with approximately the same motor competence, could be considered as one of the criteria of such differentiation. A certain “typology” of motorics would then help pedagogues to differentiate the content of teaching materials, refine physical programs in the interests of the all-round development of pupils, focus systematically and in compliance with special education principles on those areas of motorics where there are smaller or bigger deficiencies or disorders, and contribute to resolving the issue of minimal and optimal physical activities for these differentiated groups. In this way, no disproportion would arise between the lower demands placed on, for example, Romani students and their physical abilities.

1 Problem

In research, the issue of the aetiology of ID or the various groups of PES pupils and their motor capabilities appears very rarely, which is reflected both in practice in the physical education process and in the unsatisfactory state of scientific knowledge. Contemporary civilization is in ever greater need of individuals who, through their perfect performance, are able to keep step with the sophisticated technologies, and as the future work of pupils graduating from PES will for the most part be manual work, an optimum level of physical fitness is also a prerequisite for the success of these graduates on the job market. The level of physical fitness of PES pupils should be ascertained regularly, especially with regard to monitoring their physical and motor development and preventing health risks tied to the hypokinetic lifestyles of this population group. The basic data on the state and developmental tendencies of the level of physical fitness of children and youth could also serve as the impetus for corrective intervention in school physical education.

population. In 1999, the Czech government also stated that 80–90 % of the pupils at some special schools at that time were Romani (Case D.H. and others vs. Czech Republic 2007). According to data obtained by the European Court for Human Rights, the total number of pupils at special schools in Ostrava was 1 360, of which 56% were Romani. Furthermore, while only 1.8% of the all non-Romani children attended special schools, the percentage of Romani children attending these schools was 50.3% (Case D.H. and others vs. Czech Republic). About 34% of our research sample of 153 pupils aged 9–11 years attending PES in Prague comprised Romani children.

We have already (Lejčarová 2007a) discussed the relationship between aetiology, or types of ID, and the motorics of persons with such disability (PES pupils). The issue of motor performance of children of Romani ethnicity has been dealt with only singularly; in Slovakia, the situation is much better in this regard. The category of Romani with moderate ID was part of the target group in the study conducted by Válková, Thaiszová (1989), who compared the level of certain motor indicators (standing broad jump, 60-metre dash, grenade throw, 5kg shot put, 12-minute run, set figures with a stick) of clients of a social care institute for youth aged 14–26 years differentiated on the basis of certain criteria (mild ID – athletes; mild ID; moderate ID – simple/Romani/individuals with Down’s Syndrome; severe ID); for each group they then assessed the possibility of their development over a two-year period. Ješina, Matochová, Růžicková (2010) compared the level of selected motor abilities of pupils of Romani ethnicity aged 9–13 years and of their peers from the majority population (both groups from elementary schools with a predominance of pupils of Romani ethnicity). The non-Romani pupils achieved better results in the majority of the motor indicators.

Horváth, Horváthová (2001) compared the state of physical development and motor performance of 7- to 10-year-old Romani children and children from the regular population (by applying the EUROFIT test). The results confirmed the existence of a disparity in favor of the regular population. Adamčák (2005) also discovered that 7- to 10-year-old Romani pupils lagged behind in physical development and in the level of motor performance by at least two years compared to the regular school population. Trochtová (2002) compared the motor skills level of a 6-year-old Romani child to that of a three-year-old non-Romani child. According to the author, thanks to sufficient natural movement, the motor skills of these pupils are proportionately developed, but fine motor skills are, however, at a very low level. Šotkovská, Húgec (1999) and Turek, Húgec (1996) confirm that general motor performance of Romani pupils is at a lower level compared to their non-Romani peers. They mention, in particular, a lack of physical endurance activities and overall uneven acceleration of expected motor development.

The aim of the submitted research study was to ascertain the level of physical fitness of middle school-aged pupils attending PES and perform a comparison between pupils of Romani origin and pupils of non-Romani origin.

2 Method

2.1 Subjects

A total of 153 pupils (61 girls and 92 boys; average age of 10.62 ± 0.56 years) from PES in Prague, with two identical years of birth, took part in the testing. This was an accessible selection at those schools that provided adequate conditions and consent for its execution (a total of 17 from the basic set of 24). Of the total number of 153 pupils, 52 Romani [32 boys (61.5%), 20 girls (38.5%); average age of 10.69 ± 0.57 years] and 101 non-Romani [60 boys (59.5%), 41 girls (40.5%); average age of 10.59 ± 0.55 years] appeared in the research sample.

An informed consent was provided to the school principals and parents or primary caregivers of these children.

Some pupils could not do all the motor tests owing to permanent health limitations (heart defects, asthma, epilepsy, diabetes) and were therefore not included in the final results in the particular disciplines.

2.2 Measurements

The UNIFITTEST (6–60) test battery was used to assess the level of physical fitness. Motor abilities tests with minimal demands on motor skills (*Standing broad jump; Repeated sit-ups; 12-minute run; 4 x 10 metre shuttle run*) had proved to be suitable for application at PES in prior research (Lejčarová, Tilinger, 2004). A Sit and reach test was used to assess active joint mobility, flexibility and muscular elasticity, primarily with regard to the spine, lower back and hip joint.

The body height of pupils was ascertained by scale on a wall and a triangle (accuracy of data 0.5 cm); body weight was ascertained using a personal stand-on scale with a measuring accuracy of 0.1 kg.

2.3 Procedure

The actual measuring was done by the author to guarantee its objectivity and uniformity. Before each motor test the children were given precise instructions and told the applicable rules. In view of the insufficient ability to concentrate and lower standard of comprehension among children from special schools, often linked to problems of understanding oral instructions, it was necessary to aid their comprehension of a specific task with a visual demonstration by the examiner herself, sometimes in the form of illustration, in some cases by tactile assistance.

The testing took place in school classrooms and in gyms and on playing fields where physical education is taught at a particular school, i.e. in conditions the test subjects were very familiar with and used to. The pupils were interested and involved and, for the most part, cooperated well with the examiner.

2.4 Data analysis

The following basic descriptive statistical characteristics were used to assess the standard and consistency of performances in individual motor tests (and somatic indicators): arithmetical mean (M), standard deviation (SD), minimum performance ($x_{\min}$), maximum performance ($x_{\max}$). The substantive significance of differences in average performances was assessed using Cohen's d index (effect size). This index operates with conventional values, which make it easier to determine when a difference is large, or relative substantive significance of the difference in performance averages (Hendl, 2004; Kromrey et al., 2007). When judging substantive significance we worked on the sole basis of the means of the scores of probands who had completed a given motor task.

3 Results

The performance of Romani pupils in all motor tests is, in terms of size of the arithmetic average, higher in comparison with the performance of non-Romani pupils. With regard to substantive significance, the differences among boys are greater than among girls (Tables 1 and 2) – except in the *12-minute run test*, the d index attains a medium value. The performance of Romani and non-Romani pupils (for both sexes) shows the least differentiation in the running endurance test. Overall, in terms of the evenness of performance, the group of Romani pupils appear more homogenous, whereas a greater inter-individual variability is characteristic of the non-Romani pupils.

Tab. 1: Comparison of differences of somatic and motor indicators in PES boys, differentiated according to ethnic origin

PES boys	Motor and somatic indicators	<i>n</i>	<i>M</i>	<i>SD</i>	<i>x</i> _{min}	<i>x</i> _{max}	<i>d</i>
Romani	Height [cm]	32	143.69	6.25	129	155	0.17
Non-Romani		60	144.98	8.31	126	172	
Romani	Weight [kg]	32	39.09	12.00	21.5	71	0.10
Non-Romani		60	38.03	9.20	23	75	
Romani	Standing broad jump [cm]	32	136.97	21.17	76	173	0.55
Non-Romani		60	121.60	30.81	35	197	
Romani	Repeated sit-ups [number of cycles]	32	27.16	9.66	0	50	0.57
Non-Romani		60	21.27	10.65	0	48	
Romani	12-minute run [m]	30	1648.33	414.65	980	2620	0.36
Non-Romani		50	1508.20	374.32	750	2340	
Romani	4 x 10 m shuttle run [s]	31	13.27	1.44	11.4	17.4	0.54
Non-Romani		57	14.14	1.69	11.6	20.0	
Romani	Sit and reach [cm]	32	45.66	6.44	27	57	0.57
Non-Romani		60	41.40	8.04	27	57	

Source: Own

Tab. 2: Comparison of differences of somatic and motor indicators in PES girls, differentiated according to ethnic origin

PES girls	Motor and somatic indicators	<i>n</i>	<i>M</i>	<i>SD</i>	<i>x</i> _{min}	<i>x</i> _{max}	<i>d</i>
Romani	Height [cm]	20	141.90	8.52	126	157	0.12
Non-Romani		41	140.83	9.02	122	160	
Romani	Weight [kg]	20	37.78	11.67	24	67	0.36
Non-Romani		41	34.18	8.94	23	67	
Romani	Standing broad jump [cm]	20	117.50	25.99	60	168	0.36
Non-Romani		41	107.68	27.63	43	160	
Romani	Repeated sit-ups [number of cycles]	20	23.05	9.29	0	38	0.44
Non-Romani		41	18.83	9.75	0	35	
Romani	12-minute run [m]	18	1445.56	257.50	700	1910	0.07
Non-Romani		40	1427.50	282.45	770	1950	
Romani	4 x 10 m shuttle run [s]	18	13.94	1.39	12.4	18.2	0.57
Non-Romani		41	15.11	2.30	12.2	22.8	
Romani	Sit and reach [cm]	20	48.55	6.93	31	58	0.54
Non-Romani		41	43.77	9.71	20	59	

Source: Own

To create a comprehensive picture of both groups of pupils differentiated by ethnic origin, the level of each somatic and motor indicator was also observed from the gender point of view. In both groups, body height and weight are greater in boys than in girls; the substantive differences among non-Romani pupils are greater than among Romani pupils (Table 3). In motor tests, boys always performed better than girls, with the exception of the flexibility test. The performances of boys and girls vary more in Romani pupils (especially in the *Standing broad jump* test), whereas differences in performance of non-Romani pupils in terms of gender tend to disappear.

Tab. 3: Substantive significance of differences in motor and somatic indicator values in the PES sample, differentiated by gender

Motor and somatic indicators	Romani		Non-Romani	
	Difference	<i>d</i>	Difference	<i>d</i>
Height	small	0.25	small	0.48
Weight	small	0.11	small	0.42
Standing broad jump	large	0.84	small	0.47
Repeated sit-ups	small	0.43	small	0.24
12-minute run	medium	0.56	small	0.24
4 x 10 m shuttle run	small	0.47	small	0.49
Sit and reach	small *	0.44	small *	0.27

Note: * better test performance achieved by girls (based on simple comparison of the arithmetic mean of girls' and boys' scores)

Source: Own

4 Discussion

Unfortunately we do not have a comparison for the acquired data with any available research monitoring a suitable target group, i.e., Romani and non-Romani pupils attending PES (even with regard to age) and using similar diagnostic instruments to assess the level of motor abilities. Studies dealing with assessment of physical development and motor abilities of Romani children in particular (Horváth, Horváthová, 2001; Adamčák, 2005) use for comparison children from regular elementary schools, i.e., children without ID. It was found that Romani pupils aged 7–10 years lagged behind the regular school population by at least two years. Ješina, Matochová, Růžicková (2010) found that 9- to 13-year-old Romani pupils achieve worse results in the majority of selected motor abilities tests than their non-Romani peers, with the difference among girls being greater. In Romani boys, better performance compared to non-Romani boys was registered in the *Standing broad jump* test; in Romani girls, better performance compared to non-Romani girls was registered in the 4 x 10 m shuttle run test. None of the above differences in performance was, however, statistically significant; thus, the authors did not confirm a difference in motor abilities levels between Romani and non-Romani children.

One of the possible factors influencing the results of our research could be laziness or lack of interest on the part of Romani pupils at PES in performing physical activities. Romani pupils are actively involved in sports only rarely and no one motivates or supports them to do sports; therefore, such activities are not important to them in any way. Romani children are not very interested in extracurricular school activities (Drmotová, Elichová, 2011). Non-Romani children at PES are more active than Romani children. Children who are active in sports – be they non-Romani or Romani – can be found at PES only sometimes. For them, physical education classes are usually the only place for managed physical activity, and according to Karásková (2000), physical education possesses a number of attractive aspects (they do not have to learn, they can experience the feeling of success thanks to their inborn physical capabilities, the language barrier falls away, it is possible to unload excess energy, they excel in dancing) and detractive aspects (aversion to obligation, responsibility, necessity to curb temperament and extroversion, problems with subordination to authority). According to Michal (2009), the majority of Romani pupils at the middle and upper school are not interested in physical education. The high level of interest or lack of interest on the part of pupils in this subject can also relate to what the specific physical activity is. In terms of the content, Romani children prefer physical and sports games and exercises in combination with music (Liba, 1999); they also enjoy hiking, skiing and skating (Michal, 2009).

Šotkovská, Hügec (1999) and Turek, Hügec (1996) emphasize physical education as a positive way of affecting the development of endurance abilities and the related use of motivational means.

It is very difficult to involve pupils attending PES in regular sports activities and to have them continue with such activities, as their interests are often diffused, nondescript, quite distinct and short-term. Typically, there is a lack of initiative and inability to overcome the smallest of obstacles and to continue to do a certain activity for a longer period of time, combined with indolence or even laziness, the focus on material and short-term goals (Langer, 1996), and a low frustration tolerance threshold. Hypobulia (reduced volitional ability) is pronounced; it is clearly applied in only those cases where the children know how they should act but do not feel the need to act in this way. In the realization of goals, especially if long-term, difficulty with self-control and the ease of being affected by other momentary distractions continue to be a problem (Vágnerová, 1993). The children lack perseverance and diligence to “train”, the ability to want something, strive for something, motivate themselves to undertake training and complete something, as for them the goal is too distant.

Michal (2009), in a survey of 101 Romani pupils in middle school, discovered that only 14.9% attend sports clubs within or outside school. The pupils stated a lack of finances and not being “welcome” there as reasons for not participating in sports activities. The authors see the reason being a general lack of interest in sports activities.

According to our research at PES in Prague, only 19% of pupils aged 9–11 years take part in physical activities compared to 55% of pupils of the same age attending regular elementary schools (Lejčarová, 2007b). The results of our tests were quite balanced also probably due to the fact that neither non-Romani nor Romani pupils attending PES usually do sports regularly. Why, however, were Romani pupils always better compared to non-Romani pupils? Is this due to anthropological differences or are Romani pupils attending PES in fact placed in these schools inappropriately, something that many Czech experts have been pointing out for a number of years (Dolejší, 1987; Vlačíhová, 1988; Plášková, 1991; Balvín et al., 1997; Klíma, 2000; Nečas, 2002)?

When comparing the results of Romani and non-Romani pupils, the values of the Cohen coefficient *d* was in the mid range in most motor tests. The only exception was the 12-minute run test, where the value of the *d* index in both genders was small (0.36; 0.07). The performance of pupils in endurance runs was thus the most balanced. This fact can probably be attributed to the general deterioration of cardio-respiratory endurance across the entire population of children (Bouchard, Blair, Haskel, 2007) and the low motivation and weak volitional traits of pupils attending PES (see above), be they Romani or non-Romani.

From the methodological point of view, it is very difficult to ascertain endurance ability in individuals with ID. Implementation of long-term running endurance field tests is problematic in individuals with decreased intellectual abilities and, in this regard, it is necessary to consider them only as indirect methods of measuring endurance abilities. The main difficulty lies in the fact that individuals with ID are not able to complete the run (Seidl, Reid, Montgomery, 1987). This can be attributed to a combination of factors, including a low-level of cardio-respiratory fitness, difficulty in allocating and maintaining a suitable running speed, and a lack of motivation and perseverance to continue with a longer lasting and monotonous activity³ despite discomfort related to, for example, the inability to deal with an increased breathing rate and weariness, fatigue and even pain (DePauw et al., 1990; Pizarro, 1990;

³ This problem was shown to be serious especially at the moment when the intervals between individual pupils during mass testing began to increase.

Baumgartner, Horvat, 1991; Lavay, McCubbin, Eichstaedt, 1995; Kozub et al., 1998). Significant in this respect is also the complexity of the task tied to the abstractness of expending maximum effort for a certain period of time, i.e., understanding the purpose of a long-distance run – if a specific task is not set or the length of the track is not delineated, then many pupils lose interest in the run and stop (Fait, 1972; Cressler, Lavay, Giese, 1988).

When executing the tests, not only volitional deficiencies but also emotional deficiencies were displayed by some pupils following, in particular, such emotional impulses that they were not able to handle in an acceptable manner. This behavior apparently appeared as a reaction to excessive strain. The results could have been influenced even by the children's limited or complete lack of experience with endurance runs, which is also confirmed by Jakubec (2005) in pupils in grades 8 and 9 of former special schools in the Czech Republic; he discovered that 34 % of the 147 pupils surveyed had never taken part in an endurance run during physical education classes in school.

When assessing the results of this test, we also have to take into account the number of pupils who could complete it and who crossed the finish line (11 non-Romani and 4 Romani pupils failed to complete the test). The data used for comparative purposes do not represent the entire spectrum of the children's performance, but only the results of the strongest sample in terms of performance due to the mentioned lack of motivation, associated disability (heart defects, asthma, epilepsy, diabetes) or early interruption of the test by the probands.

The ascertained values of somatic and motor indicators in both groups of PES pupils differentiated according to gender are also of interest. In Romani pupils, the substantive significance was greater overall, whereas in non-Romani children, the results of measurements were closer together. In both groups of PES pupils, it was confirmed that gender differences in motor abilities or in the level of motor performance and physical fitness are small in the monitored age period (middle school age or pre-pubescence); with increasing age however, it increases in favor of males. Thus, the younger the children are, the less their motor abilities differ, which, according to Čelíkovský et al. (1977), is caused by the fact that immediately from birth physical development and motor skills start; with an increasing number of years, difference in muscle tissue, the external environment and the entire education system (e.g., different interests of girls) have a greater influence on motor skills. According to Měkota (1979), gender differences arise not only from different biological predispositions, but also as a result of lower performance motivation and lack of training and physical experience.

Čelíkovský et al. (1977) and Hájek (2001) state that in the 8- to 11-year-old age group, boys achieve better results in basic motor performance tests than girls. Our testing showed that at PES, boys performed significantly better in all motor tests except in the Sit and reach test. Karásková (1987) also found apparent differences between the performances of boys and girls at special schools at the time, with girls performing worse, whereas according to Hájek (2001), sexual dimorphism (in an intact population) does not manifest itself so readily in endurance-related performance; according to the author, the differences are more apparent in volitional traits.

It was discovered (Möser, 1970; Rarick, Widdop, Broadhead, 1970; Londeree, Johnson, 1974; Rarick, 1981; Karásková, 1987) that gender differences of children with mild ID or PES pupils on the level of motor abilities, especially in terms of physical condition, do not differ substantially from the intact population. Better results were also registered in girls in the Sit and reach test– in joint flexibility, girls are in anatomical and physiological terms indeed better predisposed than boys (Čelíkovský et al., 1977). Contrary to this, Rarick, Dobbins (1972, in Bauer, Pellens, Van der Schoot, 1981) and Krebs (1995) state that boys with mild

ID achieve almost without exception a greater level of flexibility than girls with mild ID (the authors of course do not state the age range to which this statement applies).

As regards somatic parameters, no great differences were found between Romani and non-Romani pupils, especially in body height. In body weight, differences are more conspicuous in girls – Romani girls are heavier than non-Romani girls. These results do not correspond to the research conducted by Olejár (1972), Bernasovský, Bernasovská (1995), Horváth, Horváthová (2002), Adamčák (2005), who found that Romani children lag behind the regular school population in physical development. Bernasovský, Bernasovská (1995) however call attention to the fact that the ethnical factor should be applied in biological parameters; therefore, the physical development of Romani children should not be assessed according to norms applicable to the rest of the population.

It ensues from the hitherto results of anthropological research of Romani children and youth that the average birth weight and size of Romani newborns are lower than that of the regular population. According to Malá, Klementa (1980), the cause of these lower values lies in the insufficient care for the foetus by the mother during pregnancy, the physical constitution of the parents and their ethnicity, i.e., Indian origin. The different somatic development of Romani children is conditioned not only genetically, but also nutritionally and environmentally (Horňák, 2011).

Comparisons of the physical development of Romani children and youth living in a family environment and the physical development of children from orphanages and boarding schools are interesting – they allow the possibility to verify the effect of the environment on physical state. The influence of the external environment regarding Romani children from orphanages is seen chiefly in the retention of certain genetically conditioned traits; thus, certain differences between these Romani children and non-Romani children are apparent. From the physical fitness point of view, however, Romani children who live in long-term residential care are located roughly in the middle between non-Romani children and Romani children (Malá, 1975; Suchý, 1977) living in a Romani family environment, which is labelled as non-stimulating (Klíma, 1991; Balvín et al., 1996, 1997; Vojtěchová, 1998; Šotolová, 2001; Nečas, 2002). In this regard, tendency toward gradual equalisation of certain biological differences is apparent. Olejár (1972) states that children of non-Romani origin but from a disadvantaged family environment do not show significant differences in comparison with standards in body height, regardless of whether they are boys or girls.

It can be generally stated that the inherent biological rules of growth of the human body manifest themselves in Romani children in the same way as in non-Romani children. This is illustrated by developmental sexual dimorphism, whose indicator is the point where the growth curves of boys and girls cross during puberty. Romani boys, just like non-Romani boys, are smaller than girls from the age of 10 to 13 years. After the age of 9 years, girls also have a greater body mass than boys, which lasts until the period between 14 and 15 years of age (Malá, Klementa, 1980; Kouba, 1995). These facts stated in literature were not confirmed in PES pupils – the values of somatic indicators were on average lower in girls, whereas in non-Romani pupils the differences in terms of substantive significance was more pronounced (0.48; 0.42 vs. 0.25; 0,.1).

Even in Romani pupils it is possible to register secular trends in body height – Romani children approximate non-Romani children in this somatic indicator; the difference, however, still does not exceed one standard deviation according to Malá, Klementa (1980). Even though obesity in Romani children has somewhat decreased, the tendency for Romani children to be obese continues to be a typical feature of this ethnic group (Horňák, 2001; Zeljko, et al. 2011).

Conclusion

The study conducted by us at PES in Prague confirmed a higher level of physical fitness in Romani pupils aged 9–11 years compared to their non-Romani peers. The differences were more pronounced in boys ($d = 0.36\text{--}0.57$) than in girls ($d = 0.07\text{--}0.7$). The most equal performances between Romani and non-Romani pupils were registered in both sexes in the running endurance test. As regards gender differences, boys always achieved better results than girls, except in the flexibility test. The performance of boys and girls differed more in Romani children, whereas the differences in the performances of non-Romani pupils were more ambiguous from the perspective of gender.

A disproportion thus arises between the lower demands placed on Romani children in physical education classes in schools and their physical capabilities. Therefore, greater demands should be placed on this group of socially disadvantaged pupils than on other pupils (especially with organically conditioned ID, for whom total or partial atypical motor development and lower level of motor skills are typical).

The above fact should be taken into account in the Frame Educational Program for Elementary Education governing the education of pupils with mild ID, or in special educational programs in the various PES supporting pedagogical autonomy in regard to the needs of all pupils (thus even Romani pupils). The Alternative Educational Program of Special Schools for Pupils of Romani Ethnicity, which was drawn up in 1998 and terminated on 31 July 2005 and whose main objective was to modify the education program at these schools with a predominance of Romani pupils to suit the specific needs and interests of these pupils, did not address this situation. The content thereof was almost the same as the now obsolete Special School Educational Program developed for pupils with mild ID.

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TĚLESNÁ ZDATNOST ŽÁKŮ ROMSKÉHO A NEROMSKÉHO PŮVODU NA ZÁKLADNÍCH ŠKOLÁCH PRAKTICKÝCH

Cílem této studie bylo zhodnotit a porovnat úroveň tělesné zdatnosti 9–11letých žáků romského a neromského původu na základních školách praktických v Praze. K posouzení této úrovně bylo použito pět testů (Skok daleký z místa odrazem snožmo; Leh – sed opakovaně; Běh po dobu 12 minut; Člunkový běh 4 x 10 metrů; Hluboký předklon s dosahováním v sedu snožmo). Šetření potvrdilo vyšší úroveň fyzické zdatnosti romských žáků oproti neromským, přičemž mezi chlapci byly rozdíly výraznější než mezi dívkami. Nejvyrovnanější výkony mezi Romy a ne-Romy byly u obou pohlaví zaznamenány v testu běžecké vytrvalosti. Vzniká tedy disproporce mezi nižšími nároky kladenými na romské žáky v předmětu tělesná výchova a jejich pohybovými dispozicemi. Zejména na skupinu těchto dětí se sociálním znevýhodněním by tedy měly být kladeny vyšší požadavky než na ostatní žáky, pro něž je typická celková či částečná atypičnost motorického vývoje.

DIE PHYSISCHE LEISTUNGSFÄHIGKEIT DER SCHÜLERSCHAFT MIT ROMA- UND NICHTROMA-HINTERGRUND AN DEN SONDERSCHULEN

Ziel dieser Studie war es, das Niveau der körperlichen Fähigkeiten von 9-11-jährigen Schülerinnen und Schülern mit Roma- und Nichtroma-Hintergrund an den Sonderschulen in Prag zu beurteilen und zu vergleichen. Zu diesem Zweck wurden fünf motorische Tests gewählt (Standweitsprung; Wiederholtes Hinlegen – Setzen; 12-Minuten-Dauerlauf; Achterlauf 4 x 10 Meter; Rumpfbeugen bei gestreckten Beinen bis zu Bodenkontakt). Die Untersuchung bestätigte das höhere Niveau der physischen Fähigkeiten von Roma-Kindern im Vergleich zu Nichtroma-Kindern. Dabei waren die Unterschiede bei den Jungen deutlicher als bei den Mädchen. Am ausgeglichensten waren die Leistungen von Roma und Nichtroma beiderlei Geschlechts beim Dauerlauf. Es entsteht also eine Disproportion zwischen den niedrigeren an Roma-Kinder im Sportunterricht gestellten Anforderungen und ihrer motorischen Disposition. Vor allem an die Gruppe von Kindern aus sozial benachteiligten Familien sollten deshalb höhere Anforderungen gestellt werden als an die übrigen Schüler, für die die vollständige oder teilweise Abweichung vom Durchschnitt der motorischen Entwicklung typisch ist.

KONDYCJA FIZYCZNA UCZNIÓW POCHODZENIA ROMSKIEGO I NIEROMSKIEGO W SPECJALNYCH SZKOŁACH PODSTAWOWYCH

Celem niniejszego opracowania jest dokonanie oceny i porównania poziomu kondycji fizycznej uczniów w wieku 9–11 lat pochodzenia romskiego i nieromskiego w specjalnych szkołach podstawowych w Pradze. Do oceny wskazanego poziomu zastosowano pięć testów motorycznych (Skok w dal obunóż z miejsca; Powtarzane przechodzenie z leżenia do siadu; Bieg przez 12 minut; Bieg wahadłowy 4 x 10 metrów; Skłon w przód w siadzie z dotknięciem palców stóp). Przeprowadzone badania potwierdziły, iż dzieci romskie mają lepszą kondycję fizyczną niż dzieci nieromskie, przy czym pomiędzy chłopcami różnice były znacznie bardziej widoczne aniżeli pomiędzy dziewczętami. Pojawia się więc dysproporcja między niższymi wymaganiami stawianymi romskim uczniom w ramach przedmiotu Wychowanie fizyczne a ich predyspozycjami ruchowymi. Zwłaszcza wobec tej grupy dzieci, znajdującej się w niekorzystnej sytuacji społecznej, należy stosować wyższe wymagania w porównaniu z pozostałymi uczniami, których rozwój motoryczny jest ogólnie lub częściowo atypowy.

COULD COMPARABLE FINANCIAL REPORTING EXIST BETWEEN THE COMPANIES IN THE EUROREGION NEISSE-NISA-NYSA?

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Abstract

The article deals with the issues of why financial statements still differ, why the companies in Euroregion Neisse-Nisa-Nysa need to have them comparable and, under what conditions comparable reporting could exist. The aim of this paper is to discuss the influence of different international as well as national conditions (historical, economical, legislative etc.) on financial reporting of accounting entities that operate in a border area of ERN. First part of the paper analyzes problems with the companies' classification, present structure of the companies in ERN and, it suggests an appropriate classification with regard to comparability of firms' financial data. Second part describes the historical development of financial accounting which demonstrates historical causes of the diversity in the accounting systems of the ERN countries. The paper analyzes implementation of the EU accounting legislation into national laws and it is focused on ERN companies that have obligation to publish their financial data. Finally, conditions under which the financial reporting of ERN companies would be comparable are evaluated. Due to the existence of a series of comparative studies showing persistent differences in financial reporting, the aim of this article is not to quantify the effects of differences in individual items of financial statements.

Introduction

Globalization has led to an increase of the local markets, wider competition, and lower barriers to international exchange, exposing smaller as well as larger companies to similar international problems. [13] This situation influences financial accounting and reporting financial statements. Consistent with its intent to address the need for international comparability in terms of financial reporting, the International Accounting Standards Board (hereafter IASB) issues and constantly updates a set of the International Financial Reporting Standards (hereafter IFRSs) for listed companies and in July 2009 it has also issued simplified IFRS for Small and Medium-sized Entities (hereafter SMEs). [11]

Although all entities work in the framework of their national laws, Euroregion situated on the territory of Germany, the Czech Republic and Poland means the interconnection of these areas by common interests and problems, which are the subject not only to national factors but also to the changing history of Europe. The search for common or mutual economic interests and benefits is, in economic terms, the driving force behind cross-border cooperation. The emphasis is on strengthening the competitiveness and regional economic base mainly through cooperation between SMEs and on the development of new business opportunities, because SMEs in border regions are particularly exposed to adverse conditions, arising from their position on the fringes of national economic systems. [16]

This contribution aims to discuss whether financial reporting could be truly comparable among companies in Euroregion Neisse-Nisa-Nysa (hereafter ERN) applying for the above mentioned conditions. The results are divided into three main parts. First, classification of

companies and present structure of the companies in ERN is analyzed and further an appropriate classification with regard to comparability of German, Czech and Polish companies in ERN is suggested. Second, the historical development of financial accounting in Germany, the Czech Republic and Poland in order to highlight the historical causes of the diversity in the accounting systems of these countries is described. Third, the paper analyzes implementation of the EU accounting legislation into national laws and it is focused on ERN companies that have obligation to publish their financial data. Last part provides a synthesis of the main consequences for the comparable accounting practice of the companies in the ERN region.

1 Classification of the enterprises in the ERN

Although large multinational enterprises gain multi-billion Euro takeovers and make global expansion plans, more than 99% of all European businesses are, in fact, small and medium-sized enterprises (SMEs). They provide two out of three of the private sector jobs and contribute to more than half of the total value-added created by businesses in the EU. Nine out of ten SMEs are actually micro enterprises with less than 10 employees. Hence, the mainstays of Europe's economy are micro firms, each providing work for two persons, on average. [5]

Nevertheless classifications of SMEs differ. Rydvalová [12], [15] specifies that companies are classified mostly quantitatively regarding the number of employees and, either turnover or balance sheet total. She states that SMEs vary also by qualitative characteristics, e.g. by the size of the country, the type of economic activity or the style of a company's management. It could be argued that qualitative characteristics cannot be so simply unified from the international point of view and accounting comparability categories of the companies should be defined by easily identifiable quantitative criteria. The European Commission has introduced such characteristics by the definition of SMEs in 2003 and they came into force in 2005. SMEs are defined as having employed less than 250 persons. They should also have an annual turnover of up to EUR 50 million, or a balance sheet total of no more than EUR 43 million. [7] These definitions are important when assessing which enterprises may benefit from EU funding programmes aimed at promoting SMEs, but they seem to be useful also for classification of the firms from accounting point of view.

With regard to the well-known specific conditions of cross-border regions of ERN and to above mentioned EU definition of SMEs it could be assumed that the representation of SMEs in this region would be closed by hundred percent of such regional companies. The structure of ERN entities in years 2005 and 2010 is shown in Tables 1 and 2.

Tab. 1: Classification of ERN entities regarding the number of employees

Country	Year	Number of Employees in ERN's SMEs			Total ERN's SMEs Employment	Total Country Employment in SMEs	Share of ERN [%]
		0 – 9	10 – 49	≥ 50			
Germany	2005	19464	1717	397	21578	-	-
	2010	20310	1711	425	22446	13616742	0.16
Czech Republic	2005	134255	2391	688	137334	-	-
	2010	143786	2135	626	146547	2369682	6.18
Poland	2005	47989	1627	405	50021	-	-
	2010	53252	1798	412	55462	5899620	0.94

Source: Own elaboration with respect to [5], [16]

Tab. 2: NACE classification of ERN entities

Country	Year	Business Sector (NACE)			Total SMEs in ERN	SMEs in Country		Enterprises in Country	
		Agriculture, Forestry and Fishing	Industry and Construction	Services		Total	Share of ERN [%]	Total	Share of ERN [%]
		A, B	C, D, E, F	G – Q					
Germany	2005	-	6010	13093	19103	-	-	-	-
	2010	699	5731	13393	19823	1862476	1.06	1871693	1.06
Czech Republic	2005	7409	40046	89879	137334	-	-	-	-
	2010	4897	43218	95532	143647	920479	15.61	921837	15.58
Poland	2005	1483	9554	43060	54097	-	-	-	-
	2010	1539	11299	44668	57506	1552965	3.70	1566286	3.67

Source: Own elaboration with respect to [5], [16]

Given Germany's position as the largest economy in the EU its SME sector is skewed towards medium and small rather than micro firms. Poland's economy is characterised by a prevalence of micro-firms. In the Czech Republic, even more than in most EU countries, the SME sector is dominated by its smallest segment, the micro-enterprises.

2 Historical background of accounting systems in the ERN countries

Different cultural, social, political, economic and legislative conditions affect not only the business environment, but also how the accounting system of the country is developed and changed. [3], [13], [14] The following part of this article attempts to highlight the differences in accounting systems of Germany, the Czech Republic and Poland in the context of their evolution.

2.1 Historical development of German accounting

The history of accounting in Germany is very strongly connected to the establishment of regulations and laws regularizing the application of accounting as a business policy. The foundation of accounting used by the first German trading organizations, however, was the discovering and distribution of Luca Pacioli's book "Summa de Arithmetica, Geometria, Proportioni et Proportionalita". First law implying bookkeeping in Germany was explicitly mentioned in the "Preußisches Allgemeines Landrecht" in 1794. The establishment of the "Deutsche Aktiennovelle" in 1884 regulated the accounting of the first stock corporations and confirmed the organized bookkeepers to orientate at very strict standards in accuracy and completeness of their accounts. At the beginning of the 20th century a regular company's audit was established and justified to enable German state officials to control and if necessary judge over accountants. [2]

The history of accounting standards established by the German state begins in 1937 when a large amount of general accounting related laws were collected in the Joint-Stock Corporation Law (Aktiengesetz, hereafter AktG) as a reaction to the crisis in the world economy in the late 1920's. In the year 1965 the AktG was revised and modified to enhance the prudence of companies and to protect investors. This law was solely used as a source of regulations and orientations for companies until the year 1985, but it did not cover all legal forms such as limited liability companies, non-corporations or partnerships and it resulted in strong differences in the methods of accounting. [2], [14]

The internationalization of the German accounting began in 1985 when three directives (4th, 7th and 8th) of the European Union and Parliament (hereafter EU Directives) were implemented in the German law, namely German Commercial Code (Handelsgesetzbuch, hereafter HGB). The HGB and the AktG have been constantly altered until today by the

German legislative, adding new standards and laws and deleting ineffective and antiquated ones. The last law passed is the “German Accounting Law Modernization Act” (Bilanzrechtsmodernisierungsgesetz) of 2009, which should give the German accounting law a more international outlook. [8], [14]

2.2 Historical development of Czech accounting

Until 1918, Czech lands were part of Austro-Hungarian Monarchy and were governed by the Austrian accounting legislation. The requirements on preparation of financial reporting were based on General Austrian Land Code from 1798. General Commercial Code was adopted in 1862 requiring the preparation of balance sheet on yearly basis. This Code was valid even in Czechoslovakia until 1948. In 1964, new Commercial Code mentioning the requirement that accounting has to follow the long-term state development planning was adopted. Seven years later, the Act on Unified System of Socioeconomic Information was issued, specifying what shall be included within the information system. It was necessary to cover the information from accounting, budgeting, calculation, statistics, and operational evidence. [4]

After the revolution in 1989, Act on Enterprise was adopted in 1990 requiring entrepreneurs to keep accounts and provide information about income, expenditures, accounting profit, assets and liabilities. At that time entrepreneurs could use single- or double-entry bookkeeping. [4]

In 1992 the first ever law on accounting came into force in the Czech Republic (Act No. 563/1991 Coll., accounting act). It had been based on the French model, even though the cultural semblance and linguistic closeness criteria did not characterize, during that period, the relationship between France and the Czech Republic [13].

Significant harmonization changes in accounting legislation took place in connection with the Czech Republic entry into the European Union. Professional public have expected that these changes bring to entrepreneurs such conditions that their financial statements are comparable in Europe in the highest possible level. Unfortunately, the achieved degree of harmonization of the Czech Republic after its entry into the European Union was not as high as it was expected. [10] The Czech Republic joined the European Union on 1st May 2004. In connection with this event Czech accounting legislation was substantially amended. Since this year, accounting regulation has been set in three degrees of legal force: Accounting Act - Decree of the Ministry of Finance - Czech accounting standards. Among other things, there was determined the extent of standards IFRS use and was defined the range of entities that may comply with these standards (obligation for listed companies, possibility for consolidated entities). [4], [10], [17]

2.3 Historical development of Polish accounting

First methodical accounting books dated back to 15th century were written during the years 1421-1454 by John Pis from Gdansk. The first accounting manuals appeared in 1530 and they included the accounting principles developed in northern Italy. [2]

In the years 1773, 1793 and 1795 Poland was partitioned by Russia, Prussia and Austria and it led to a complete loss of Polish independence. Then the laws of the occupying countries had a significant impact on the regulation of accounting practices in divided Poland. Napoleon Commercial Code was first adopted in the Grand Duchy in 1808, and later to the Polish Kingdom. This document was valid in Poland until 1934. In the Polish area directly incorporated into the Russian Empire, Russian commercial laws were applied. The Polish part of the German and Austro-Hungarian Monarchy applied the German law. In 1907 was

established the Polish Association of Accountants, but its impact on the regulation of accounting was low. [2]

The creation of the independent Second Republic of Poland in 1918 required the re-integration of various business and accounting which continued to be governed by the new Commercial Code, although priority had been ceded to the needs of tax legislation. During the Second World War the Polish regions which were under German and Soviet occupation had to adopt occupants accounting system. In 1946 there was new uniform accounting plan introduced, which was also inspired by the German model. This model was replaced by the centrally planned economy, which was the first step to the introduction of Soviet accounting plan.

After 1989 there was a radical transformation of the entire socio-economic system. The changes in economic system caused the need to restructure accounting and financial reporting. The Ministry of Finance adopted Accounting Decree, valid from 1st January 1991. Decree introduced new formats of financial statements. In the same year, the Act on the Audit and Publication of Financial Statements was adopted. These laws were replaced by Accounting Act, which has been valid since the year 1995 and in which provisions are modeled on EU Directives and International Financial Reporting Standards. [14]

3 Need for international accounting systems and accounting harmonization

Financial accounting is a tool for collecting the information required to be disclosed to external stakeholders of a company, whereas a financial report is a platform for sharing this information. Financial report consists of financial statements which give a picture of a financial position of the company (balance sheet), its performance (income statement), cash flow etc. [13], [17]

As illustrated by dozens of studies focused on comparing national accounting legislation with the IFRS and with each other (e.g. [2], [14], [19] as well as PWC, Deloitte, Ernst&Young etc.), there were and still are major differences (quantified by tens of studies) in the financial reporting practice of companies around the world, which causes a lot of difficulties and a harmonized or standardized accounting system was and still is needed. Therefore, some organisations (the most important of them in Europe is IASB) set up standards to solve this problem.

“Harmonization is a process of increasing the compatibility of accounting practices by setting bounds to their degree of variation. ‘Harmony’ is the state where compatibility has been achieved. ‘Standardization’ appears to imply working towards a more rigid and narrow set of rules.” [11].

The pressure for international harmonization comes from those who use, regulate and prepare financial statements (owners, shareholders, managers, investors, government, competition, trade partners, financial analysts, ...). For multinational companies and international accounting firms it is necessary to know and understand how a national individual company prepares their statements and they need to make it more comparable, reliable and easier to work with. [1], [14]

Harmonization is now playing a big part in accounting unification.

3.1 International, namely European accounting regulation

The structure of the financial statements of EU member countries formally meets the requirements of the EU Fourth Directive because each member state has been obliged to adopt it into its national accounting legislation. [13], [14] More precise rules have been set by

IASB in the form of standards (IFRSs), and since the year 2005 this set of standards has become obligatory for preparing and reporting financial statements of companies subscribed to any European stock exchange partly as a reaction to bankruptcy of large international companies (e.g. Enron scandal). [9] So, it could be stated that larger companies in Europe have comparable accounting system, although there are still major differences between national legislation and accounting standards IFRS which have to be solved because in many European countries national accounting records are also relevant for determining the income tax base and also for determination other taxes. It increases the demands on the accounting because they must run two separate systems: the stock exchange requires statements prepared according to IFRSs, the tax liability is assessed according to records maintained under national accounting legislation. [13]

National accounting legislations differ in the fact whether other non-listed entities may keep accounts according to IFRSs. Usually, it is allowed to non-listed consolidated entities.

3.2 Common financial reporting practices of Small and Medium-sized Enterprises in ERN and possibility of comparable financial reporting

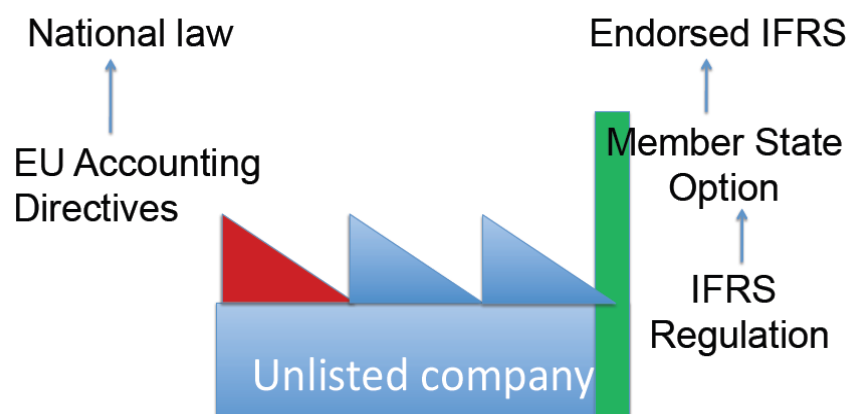
As shown in Chapter 2, certain degree of discrepancy of the financial reporting in ERN countries results from their different historical development. This part says that comparability of financial reporting is possible if there exists the same regulation applicable to the certain type of entities without regard to national rules of the country in which they operate. However, this applies only to listed companies, but not to SMEs.

When comparing the financial statements of any company including SMEs we can conclude that the list of items in the financial statements of companies looks very similar (due to requirement of EU Fourth Directive adoption). [2] However, the available comparative studies (e.g. [2], [14], [19] as well as PWC, Deloitte, Ernst&Young etc.) show that content of them vary widely in many cases because all non-listed companies prepare individual financial statements in accordance with national accounting practices.

Let's look at an example of the income, which is the significant accounting item as reported in the balance sheet and in the Income (profit and loss) statement. In most countries determining the amount of taxable income is based on accounting profit calculated in accordance with relevant accounting principles. However, they differ significantly in scope and nature of the adjustments that are used for the calculation of taxable income. For example, in Germany, the vast majority of companies do not carry out any modifications at all and accounting profit is used as the basis for calculating the tax liability. In contrast to this approach in Poland and in the Czech Republic accounting tax base is adjusted accounting profit (e.g. the most common difference is tax requirement on the different amount of depreciation and amortization of the fixed assets, research and development expenses, leasing contracts etc.). [2], [8], [14], [19]

What is more, administrative and financial reasons lead SMEs to take in many cases the national tax requirements as their accounting rules that usually do not meet generally accepted accounting principles. In these cases comparability of the content of financial reports is very weak. Even very small (micro-) companies with low turnover (the limits for recognition the company as accounting units differ as well) are not obliged to keep accounts and they only keep the simplified evidence for the tax purposes and no international comparison is possible. [19]

Nevertheless, SMEs have had their own 230 pages long international standard (hereafter IFRS for SMEs) since 2009 [5], but there is the problem with its adoption into national accounting legislation because European Commission does not require it. Following figure shows possibility for comparable financial accounting between European SMEs.



Source: [18]

Fig. 1: Possible financial accounting for SMEs

Nevertheless, other transnational problems negatively relate to adoption of IFRS for SMEs, e.g. IFRS for SMEs is not a part of the current regulation; to be applied in the EU, the IFRS for SMEs must be compatible with the EU Directives and adopted by all member states as national accounting standard. [18]

Conclusion

SMEs play an important role in the global economy as well as in cross-border territories. Their accounting issues have recently been under debate, especially after the issuance of the IFRS for SMEs by the IASB in 2009. This paper exemplifies the case of accounting comparability between the companies located in the cross-border area of ERN. Germany, the Czech Republic as well as Poland have adopted EU Directives into their national law, which gives their financial reporting similar look. ERN companies which are mostly SMEs are more oriented to national accounting legislation or even only to national taxation rules. The existing studies on comparative analysis between the German, Czech and Polish accounting systems and the IFRS for SMEs provided evidence that there are differences between them. These analyses revealed that accounting regulations (and practices) are not fully harmonized, there are conceptual problems in the current regulations and these regulations are influenced by taxation and are of a rule-based approach.

The very existence of the IFRS for SMEs for the comparability of financial reporting among countries ERN is not enough. SMEs will not accept the dual accounting evidence voluntarily due to transaction costs.

To obtain comparable financial reporting it would be necessary to do the following:

- revision of the 4th and 7th EU Directives (simplify, modernise, reduce unnecessary burdens),
- the IFRS for SMEs must be compatible with the EU Directives,
- the IFRS for SMEs must be adopted by ERN states and converted into their national accounting legislation.

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EXISTUJE MEZI PODNIKY V EUROREGIONU NEISSE-NISA-NYSA SROVNATELNÉ FINANČNÍ VÝKAZNICTVÍ?

Článek se zabývá srovnatelností finančního výkaznictví podniků v Euroregionu Nisa. Cílem příspěvku je prodiskutovat vliv odlišných mezinárodních jakož i národních podmínek (historických, ekonomických, legislativních) na finanční výkaznictví účetních jednotek, které působí v příhraničních oblastech ERN. První část příspěvku analyzuje problematiku klasifikace podniků, současnou strukturu podniků v ERN a přijímá vhodnou klasifikaci s ohledem na srovnatelnost finančních dat podniků v ERN. Druhá část popisuje historický vývoj finančního účetnictví, na kterém demonstruje historické příčiny různorodosti účetních systémů v zemích ERN. Příspěvek analyzuje implementaci legislativy EU do národních zákonů se zaměřením na podniky ERN, které mají povinnost zveřejnit finanční data. Nakonec jsou zhodnoceny podmínky, za kterých by finanční výkaznictví podniků v ERN bylo srovnatelné.

GIBT ES ZWISCHEN UNTERNEHMEN IN DER EUROREGION NEISSE EINE VERGLEICHBARE NACHWEISFÜHRUNG?

Dieser Artikel beschäftigt sich mit der Vergleichbarkeit der finanziellen Nachweisführung der Unternehmen in der Euroregion Neisse. Das Ziel des Beitrags besteht darin, den Einfluss der unterschiedlichen internationalen sowie nationalen (historischen, ökonomischen, legislativen) Bedingungen auf die Nachweisführung von Rechnungseinheiten, die in den Grenzregionen der Euroregion agieren, zu diskutieren. Der erste Teil des Beitrags analysiert die Problematik der Klassifikation von Unternehmen und die gegenwärtige Struktur der Unternehmen in der ERN und erstellt eine geeignete Klassifikation mit Blick auf die Vergleichbarkeit von Finanzdaten der Unternehmen innerhalb der ERN. Der zweite Teil beschreibt die historische Entwicklung der Finanzbuchhaltung, an welchem die historischen Ursachen der Verschiedenartigkeit der Finanzsysteme in den Ländern der ERN demonstriert werden. Der Beitrag analysiert die Implementierung der Legislative der EU in die nationalen Gesetze mit besonderer Hinsicht auf die Unternehmen der ERN, welche verpflichtet sind, die Finanzdaten zu veröffentlichen. Schließlich werden die Bedingungen bewertet, unter welchen die Nachweisführung der Firmen der ERN vergleichbar wäre.

CZY PRZEDSIĘBIORSTWA W EUROREGIONIE NEISSE-NISA-NYSA MAJĄ PORÓWNYWALNĄ SPRAWOZDAWCZOŚĆ FINANSOWĄ?

Artykuł poświęcony jest porównywalności sprawozdań finansowych przedsiębiorstw w Euroregionie Nysa. Opracowanie ma na celu omówienie wpływu odmiennych międzynarodowych i krajowych uwarunkowań (historycznych, gospodarczych, prawnych) na sprawozdawczość finansową jednostek gospodarczych, które funkcjonują na pograniczu ERN. W pierwszej części przeanalizowano klasyfikację przedsiębiorstw, obecną strukturę przedsiębiorstw w ERN oraz przyjęto klasyfikację odpowiednią pod względem porównywalności danych finansowych przedsiębiorstw w ERN. W drugiej części opisano historyczny rozwój rachunkowości finansowej, na przykładzie którego przedstawiono historyczne przyczyny odmienności systemów księgowych w krajach ERN. Ponadto, w artykule analizie poddano wdrażanie przepisów unijnych do ustawodawstwa krajowego pod kątem przedsiębiorstw ERN, które są zobowiązane do publikowania danych finansowych. Na zakończenie dokonano oceny warunków, w jakich sprawozdawczość finansowa przedsiębiorstw w ERN byłaby porównywalna.

DIVERSITY MANAGEMENT AND GENDER PAY GAP

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Abstract

Diversity management has been a topical issue of management approaches in this decade. The paper introduces a basic concept of diversity management as an approach from which arise its key principles from general management. The paper focuses on one of the major diversity aspects – the gender. In a business environment gender diversity and gender pay gap has been discussed frequently. The background on this topic has been analyzed on primary and secondary data from Czech and international labour market. Many studies have proved disproportions between number of men and women in managerial positions as well as in their earnings at comparable or equal positions. On the other hand, many companies realize this fact as a factor of failure and inefficiency and try to eliminate this disproportion through different diversity management programmes focused on women. The paper introduces examples of some of them.

Introduction

Diversity is a fact of modern organizational life, and the challenge of managing a diverse workforce is widely recognized as a key issue facing today's human resource managers. Diversity management, in other words management of variedness, is a new managerial approach, which supports heterogeneity at workplaces and equal opportunities as a one tool of higher effectiveness. Changes to legislation and policy have focused on equality of opportunity and diversity, meaning that, in theory, the possibilities of careers in management should be open to everyone, regardless of their gender and/or ethnic background [6]. The original meaning of the English term “diversity” characterized a concept which aimed at creation of conditions which enable to all employees mainly in business environment expand their personnel potential [18, p. 16]. Diversity brings together individuals from various backgrounds that possess important skill that stimulate organizational competitiveness and growth. The benefit of diversity can be seen in several areas such as employee relations, strategic advantage, and tapping into new markets. [19]

1 Definition of diversity management

Diversity management refers to the voluntary organizational actions that are designed to create greater inclusion of employees from various backgrounds into the formal and informal organizational structures through deliberate policies and programs.

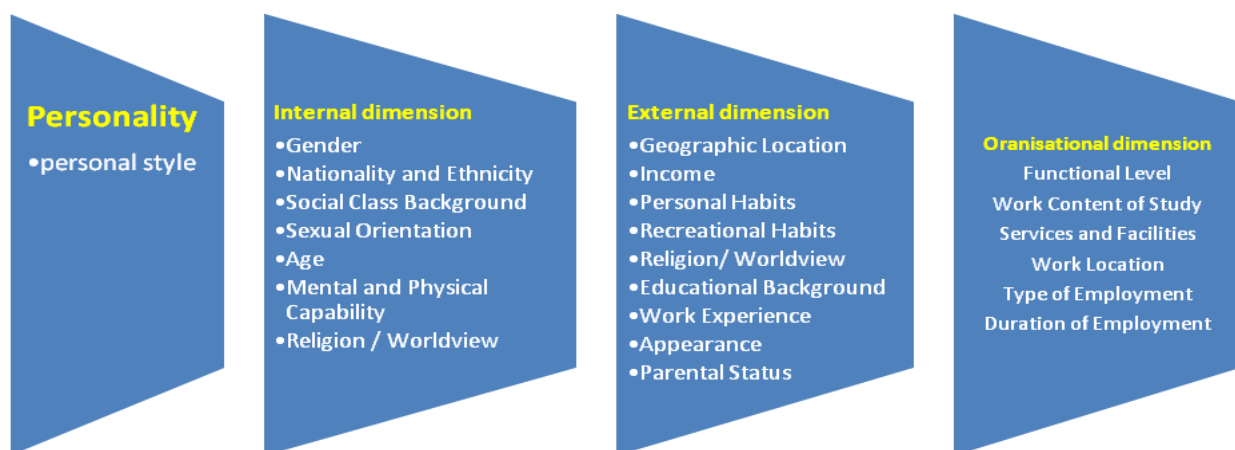
Gender diversity is increasingly approached as a value-driver in organizational strategy and corporate governance, and as such it has become a challenging issue in recent academic research. Previous research focused primarily on the effects of single-level diversity. Some reviews have concluded that there is substantial evidence to argue that diversity can have a detrimental effect on the function of work groups and top management teams, e.g. [5]. However, only a limited number of studies have explored the effect of gender diversity at cross-levels of the organization on organizational performance. The contribution of different

level jobs within the organizational structure should be considered because company's performance is achieved by the efforts of every level of the enterprise. Senior executives set corporate strategy and policies as well as they use formal control systems to lead employees to accomplish organizational goals. It is important to understand diversity management as a part of company culture.

The main categories which comprise diversity are as follows:

- Gender
- Nationality and Ethnicity
- Social Class Background
- Sexual Orientation
- Age
- Mental and Physical Capability
- Religion / Worldview

Figure 1 introduces four different factors of diversity in a company. The core of the model is represented by a personality, an individual which then react to internal, external and organisational factors.



Source: PPC online, 2012 [21]

Fig. 1: Diversity factors – four layers of diversity

The diversity is meant as representing a multitude of individual differences and similarities that exist among people. To describe these factors:

Personality, the dimension which constitutes the core of this model, covers all aspects of a person that may be classified as “personal style”.

Internal dimensions or core dimensions are considered to be dimensions that may not be easily changed by individuals and are thus taken into account by the relevant equal treatment acts.

External dimensions are characterised by their variableness. Religion or worldview are exceptions, they could be regarded as internal dimension for two reasons: Firstly, religion and worldview cannot always be chosen freely and secondly, discrimination as a result thereof is legally forbidden.

Organisational dimensions are defined by corporate or institutional affiliation. They consist of characters such as management status, union affiliation, work location, seniority, divisional department, work content/field, and functional level classification. The people can influence

this layer in a limited capacity, because control rests with the organization in which a person works. [20]

In a diverse environment where people can interact and share ideas, organizational growth and health are present. The benefit of diversity can be seen in several areas such as employee relations, strategic advantage, and tapping into new markets.

2 Gender aspect of diversity management

Diversity management has a dual focus: the first is enhancing social justice by creating an organizational environment in which no one is privileged or disadvantaged due to characteristics such as race or gender; the second is increasing productivity and profitability through organizational transformation. Gender differences in proportion of employees, quality and structure of their job positions and level of earnings have been dominant.

2.1 Earnings gender inequality

Inequality in pay between men and women remains high in Europe. Moreover, the impact of pay gaps can be far-reaching, as lower pay increases the risk of financial dependence not only during working life, but also implies lower pensions and thus an increased risk of poverty during old age. [4]

2.2 Gender pay gap

At EU level, the gender pay gap is defined as the relative difference in the average gross hourly earnings of women and men within the economy as a whole. Although personal choices, occupational crowding, and discrimination, contribute to the gender gap, the higher share of women in an occupation is still the largest contributor. Although the existence of the gender pay gap is well documented, the factors that contribute to it are still debated. One such factor is the difference in the proportion of jobs held by women and men. However, understanding how occupational differences contribute to the gender pay gap is made more complicated by the fact that both men and women in predominately female occupations earn less than men and women in male dominated occupations. An important question that has not been resolved is why do predominately female occupations tend to pay less? A number of possibilities including worker characteristics, job characteristics, occupational crowding, devaluing by society of women, and discrimination have been posited. It is necessary to say, that even after accounting for observable differences in worker and job characteristics, a significant fraction of the gender wage gap remains unexplained. Second, wages in female-dominated sectors and occupations are lower than those in male-dominated sectors and occupations. This phenomenon has received much attention, and abundant evidence shows that individual wages vary systematically with the gender composition of occupations. Two types of explanations have been volunteered for these stylized facts: one is gender discrimination in the labour market, and the other is (voluntary) selection of men and women into different sectors and occupations, primarily in response to their different care responsibilities.

2.3 Empirical evidence

The average gender wage gap in the EU (27) adds up to 17.5% – a level that has practically stayed unchanged over the last years. In 2012, women still make up only 11.7% of boards at the top 3001 European companies. Women's share in national parliaments is somewhat higher in most European countries, but no country reaches the 50% threshold (for example: France 19%, UK 22%, and Germany 33%). Table 1 reports about gender pay gap in the EU members based on data from Eurostat. In the Czech Republic the gender pay gap in 2008 was

compound to 26.2%, which is the second highest in the EU. This disproportion is also illustrated by Tables 2 and 3 both for real and expected earnings on the Czech labour market.

Tab. 1: Gender Pay Gap in EU27 in %

Country	Gender Pay Gap	Country	Gender Pay Gap
Belgium	9	Luxembourg	12.4
Bulgaria	13.6	Hungary	17.5
Czech Republic	26.2	Malta	8.6
Denmark	17.1	Netherlands	19.6
Germany	23.2	Austria	25.5
Estonia	30.9	Poland	9.8
Ireland	17.1	Portugal	9.2
Greece	22	Romania	9
Spain	16.1	Slovenia	8.5
France	17.1	Slovakia	20.9
Italy	4.9	Finland	20
Cyprus	21.6	Sweden	17.1
Latvia	13.4	UK	21.4
Lithuania	21.6	EU 27	17.5

Source: Eurostat (2008) except for EE (2007)

In the face of gender equality programmes by the EU and in advance of European Equal Pay Day (EPPD) being held across EU member states from early March 2012, data issued by Mercer shows the extent to which female executives across Europe are paid less than their male counterparts. Mercer analysed the pay of 264,000 senior management and executives in March 2012. [12]

The main findings can be concluded as:

- Women executives' pay lags behind male counterparts across Europe;
- The pay disparity for female executives is biggest in Germany (22%);
- Men receive higher base salaries and bonus payments;
- Women comprise less than one third of the executive workforce in 5,321 companies, across 41 European countries.

According to the data, women made up around 29% of the executive and management workforce across Europe compared to 71% of men. More broadly across Europe, the EU is committed to addressing gender inequality and the Gender Pay Gap as part of its EU Gender Action Plan. It has also committed to improving the number of women on executive boards. ('Executive' is defined here as a person who sits on a company board). In Western Europe, the greatest pay-disparity occurred in Germany where women executives were paid 22% less than the total compensation of their male counterparts, followed by Austria (-20%) and Sweden (-19%).

In Central and Eastern Europe, the data showed that in this region, women in executive's positions in Bulgaria receive 5% more in total compensation than their male peers while women in the Russian Federation receive around 3% more. Women in Lithuania received 18% less than their male counterparts followed by Romania (-14%), Hungary (-13%), Serbia (-12%), Slovakia (-11%), Poland (-10%), with the Czech Republic and Ukraine both showing -5% [4].

If we look back to the history, an example of solving gender pay equity can represent the Equal Pay Act signed in 1970 as an Act of the United Kingdom Parliament. It prohibits any less favourable treatment between men and women in terms of pay and conditions of employment. After 40 years of legal force of this act the 2010 National Management Salary Survey in the UK collected data from 43,312 individuals in 197 organisations and showed that male salaries outstripped female earnings by as much as 24% at senior levels. At the most junior level, male executives still averaged £1,065 more than female executives. While female managers' salaries rose by 2.8 per cent in 2010, compared to 2.3 per cent for their male counterparts, the average male manager earns £10,071 more. At the current rate of increase, women managers will have to wait 57 years before their take-home pay is equal to that of male colleagues. [8]

To characterize data at Czech labour market in 2011 we can compare earnings of men and women with no matter which position they occupy. Table 2 shows that women in the age of 20 – 29 earn more than 7% less than man, in the age group of 30 – 39 nearly 16% less and between 40 – 49 years nearly 30% less. [10]

As can be seen in Table 2, in all age groups average earnings of men are higher than earnings of women.

Tab. 2: *Tab. 2 Gross monthly earnings in 2011 in the Czech Republic (ISPV)*

Age/years	Average earnings/month/CZK (ISPV)		Percentage of women's earnings comparing to men
	Men	Women	
20 – 29	22,061	20,506	92.95%
30 – 39	30,212	22,378	74.07%
40 – 49	30,504	21,373	70.06%

Source: ISPV, 2011 [10]

The older the working population is, the higher is the gap between earnings of men and women. To confirm this assumption, there are used data from own survey, where the first year students of selected economic faculties in the Czech Republic were questioned. The survey has been carried out since 2001 at selected regional and Prague universities, namely at economic faculties of University of Pardubice, Technical University of Liberec and Prague University of Economics. Students have been asked about their expected earnings after they finish their university degree and with 10 years of experience. Since the beginning of this survey more than 7000 answers from respondents confirm disproportion between earnings of male and female both with secondary and university degree every year. The table 3 shows women's and men's earnings expectations 2011 to illustrate the earnings pay gap.

Tab. 3: *Average expected earnings of first year students of selected economic faculties in 2011/2012 as they finish the university degree.*

	CZK		Percentage of women's earnings comparing to men
	Men	Women	
Graduates	26,607	22,883	86.00%
10 years of experience	48,009	36,742	76.53%

Source: own survey

The data in table 3 show that even students perceptions represent the gap between men and women expectations after entering the market. Also a deep disproportion in connection with an increasing length of working experience can be seen with very similar results to matching to Table 2 for respondents of age 30-39 (see both Table 2 and 3). Table 3 confirms that

students know well situation at labour market and reflect the earnings pay gap in their expectations. For more details of this survey see Urbánek et al. [17].

3 Companies supporting gender diversity

Reasons and persisting barriers for women to climb the career ladder in business and politics are mainly explained by pointing to difficulties for women to combine work with upbringing children. However, many countries have been increasing their efforts to improve the work/life balance of parents over the recent years, for example by investing more and more in public child care services. Unfortunately, this is not the case of the Czech Republic which, on the other hand, has closed down many of public nurseries, which caused a huge imbalance between supply and demand for this care. For many women returning from their maternity leave this causes big troubles as they can loose their jobs or have to pay private nurseries and even support their misbalance in employability of women and their earning gap.

The European Commission currently consults on mandatory quotas for women on company boards of large European companies to tackle the persistent lack of gender diversity. A problem solution can also support gender quotas in company boards. Germany, for example, is in the midst of a debate over gender quotas in newspapers.

Diversity management in the Czech Republic has been relatively a new phenomenon caused by our isolation in the past as well as the opinion that diversity in the group was understood as a disadvantage. Nevertheless, we can find increasing number of those companies which introduce some diversity management programmes to support selected groups of employees. [15], [19]

They are for example:

- **Staropramen** – supports women in managerial positions and gender balance (the share of women in top management is about 50%) and also reintegration of parents after the maternity leave.
- **RWE** – supports women in managerial positions and train their women employees with high potential to prepare them for these jobs.
- **Škoda Auto** – supports long life learning of their employees and focuses on target group 50+ and increases continuously number of women at managerial positions.

The emphasis on the business advantage of diversity management is probably a good motivator for companies to enact diversity programs, nevertheless, it does not mean that moral and ethical missions should be neglected or overlooked.

Diversity management, it is not only a gender issue. Many international companies such as IBM, Toyota, Coca-Cola, and other organizations are leveraging diversity to tap into underserved markets and customers. For example, Coca-Cola has used its diversity to develop a market in the Hispanic community for one of its new soft drinks. Another example is the Longo Toyota car dealership that has hired salespeople that speak various languages to serve their diverse client base. [20]

Conclusion

Diversity management is proactive and aimed at creating an organization in which all members can contribute to and achieve their full potential. Analysis and surveys about diversity management have demonstrated a positive impact on high performance of companies where senior management teams include a diversity of ages, ethnicity and gender. Some studies identify economic reasons for establishing diversity management in terms of

lower levels of absenteeism, attraction and retention of highly talented people, increased creativity and innovation, higher quality problem solving and as well in terms of general profit indicators. Particularly, the question whether diversity correlates to higher innovation capability experiences growing attention. This paper has attempted to highlight the diversity management background and focus on the aspect of gender and diversity. Data about gender pay gap show that women on the labour market get paid less and also their number at managerial positions is not in balance. Successful examples show that many companies understand the importance of implementation of diversity programmes in their company environment and culture to increase their effectiveness and competitive advantage.

Acknowledgements

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DIVERSITY MANAGEMENT A ROZDÍL VE VÝDĚLCÍCH MUŽŮ A ŽEN

Diversity Management je v dnešní době neodmyslitelnou součástí strategie řízení lidských zdrojů. Diversita je chápána jako rozdílnost či různorodost dle různých kritérií. Podstata vychází ze základních principů management a spočívá ve využívání rozmanitosti a různorodosti pracovních týmů ke zvýšení jejich úspěšnosti a efektivnosti. Analýzy a studie ukazují, že pokud se firmy diversity managementu věnují, zvyšuje to kvalitu jejich práce. Jedním z klíčových faktorů rozdílnosti v podnicích je otázka rovného postavení mužů a žen. Statistiky dokládají, že mnoho firem zastupuje stále v jejich managementu pouze malé procento žen. Také výdělky žen na trhu práce na srovnatelných pozicích jsou nižší, jak dokládají data z EU. Některé firmy si tuto skutečnost uvědomují a podporují programy diversity managementu zrovnoprávnění podmínek pro muže a ženy v pracovním prostředí, jak ukazují informace v závěru příspěvku.

DIVERSITY MANAGEMENT UND DER UNTERSCHIED IM VERDIENST VON MÄNNERN UND FRAUEN

Diversity Management ist in der heutigen Zeit ein nicht wegzudenkender Bestandteil der Strategie der Menschenführung. Diversität versteht sich als Unterschiedlichkeit oder Verschiedenartigkeit nach verschiedenen Kriterien. Der Kern des Ganzen geht von grundlegenden Prinzipien des Managements aus und beruht in der Nutzung der Vielfältigkeit und Verschiedenartigkeit von Arbeitskollektiven zur Steigerung ihrer Erfolgsrate und Effektivität. Analysen und Studien zeigen, dass, wenn die Firmen dem Diversity-Management Aufmerksamkeit widmen, dies die Qualität ihrer Arbeit erhöht. Einer der Schlüsselfaktoren der Unterschiedlichkeit in den Betrieben ist die Frage nach der Gleichstellung von Mann und Frau. Die Statistiken belegen, dass viele Firmen noch immer in ihrem Management nur von einem eher kleinen Prozentsatz Frauen vertreten werden. Auch die Verdienste der Frauen auf dem Arbeitsmarkt in vergleichbaren Positionen sind niedriger, wie Daten der EU belegen. Einige Firmen sind sich dieser Tatsache bewusst und unterstützen Programme des Diversity-Managements zur Gleichberechtigung von Mann und Frau im Arbeitsumfeld, wie die Informationen am Ende des Beitrags zeigen.

DIVERSITY MANAGEMENT A RÓŻNICA W ZAROBKACH MĘŻCZYZN I KOBIET

Diversity Management [zarządzanie różnorodnością] to obecnie nieodłączny element strategii zarządzania kapitałem ludzkim. Różnorodność rozumiana jest jako zróżnicowanie i odmienność według różnych kryteriów. Istota oparta jest na podstawowych zasadach zarządzania i polega na wykorzystywaniu zróżnicowania i różnorodności zespołów roboczych w celu podniesienia ich sukcesu i efektywności. Analizy i opracowania pokazują, że jeżeli firmy poświęcają uwagę zarządzaniu różnorodnością, to podnosi to jakość ich pracy. Jednym z kluczowych czynników różnorodności w przedsiębiorstwach jest kwestia równej pozycji mężczyzn i kobiet. Statystyki pokazują, że wiele firm w ich zarządach reprezentuje tylko niewielki odsetek kobiet. Jak wynika z danych UE, również zarobki kobiet na rynku pracy na porównywalnych stanowiskach są niższe. Niektóre firmy uświadamiając sobie to zjawisko wspomagają programy zarządzania różnorodnością w celu zrównania warunków dla mężczyzn i kobiet w środowisku pracy, na co wskazują informacje zawarte w zakończeniu artykułu.

LOGISTICAL ASPECTS INFLUENCING THE DECISIONS OF THE RESPONDENTS IN THE IMPLEMENTATION OF INTERNET PURCHASING

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Abstract

This article deals with an analysis of the influence of logistical aspects on the shopping behaviour of online customers and on the range of preferences of individual aspects. Attention is paid to the extent of the influence of payment method and the method of delivery of goods, which Internet shops offer, on purchasing decisions. Within these two effects the variability of responses and possible dependence of buying behaviour on the mentioned aspects are investigated. The respondents were further asked about the idea of how many days the term 'rapid delivery' meant for them. Last but not least, the amount of purchase from which postage should be covered by an e-shop was investigated by the respondents. This research was conducted on a sample of more than 500 respondents. For processing, descriptive statistics, tests of hypotheses and correlation were used.

Introduction

Within the last few years there has been a considerable expansion of Internet shopping [2], [3]. For business this fact implies the need to focus on this segment of customers and to ascertain their wishes and needs [4], [5]. Such targeting is already underway within the research NetMonitor which maps Czech Internet traffic [6]. The research is focused on behaviour, attitudes and habits of users in relation to the use of media. The vast majority of the survey respondents refer to the Internet as a medium suitable for obtaining information about products. It is the largest project of this kind attended by thousands of Internet users from all over the Czech Republic. According to the results obtained from the fourth wave of additional marketing research project NetMonitor, which was carried out by the research agency MEDIARESEARCH for the Association for the Internet Advertising, the Internet is definitely the best source of information on the supply of goods and services. NetMonitor research shows an increasing trend in the number of real domestic Internet users.

The freshness of the subject was also confirmed at the 3rd annual conference focused on electronic commerce which is being prepared thanks to great success again for 2012 [1]. This conference was held in September 2011 under the auspices of the Association for Electronic Commerce in cooperation with the Association TUESDAY Business Network. At the conference there were presented professional contributions related to new trends in communication with the customer, customer care, customer segmentation and the analysis of surveys dealing with the customer perspective.

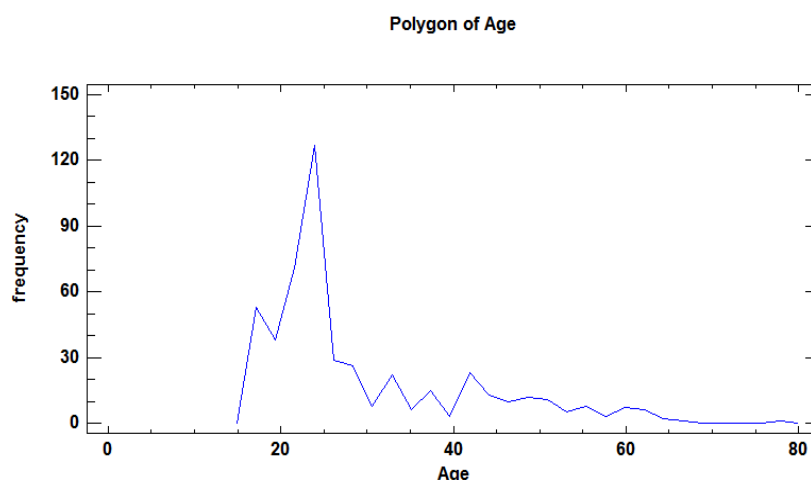
1 Research Overview

This research deals with the logistical aspects influencing respondents' decisions about making purchases on the Internet. Gradually, the effects of payment methods and delivery options are investigated. The concept of goods delivery speed is examined as well as the amount of purchase from which postage should be covered by an e-shop. The concept of the

present research is based on previous theoretical and technical knowledge gained from the research undertaken in this field by research agencies. The respondents are individuals who have already implemented a purchase via the Internet. For data collection a method of electronic polling was selected, with the use of social networks, because this target group is expected to have certain computer literacy and, at the same time, its better availability is ensured. The survey includes 503 respondents.

1.1 Characteristics of the sample

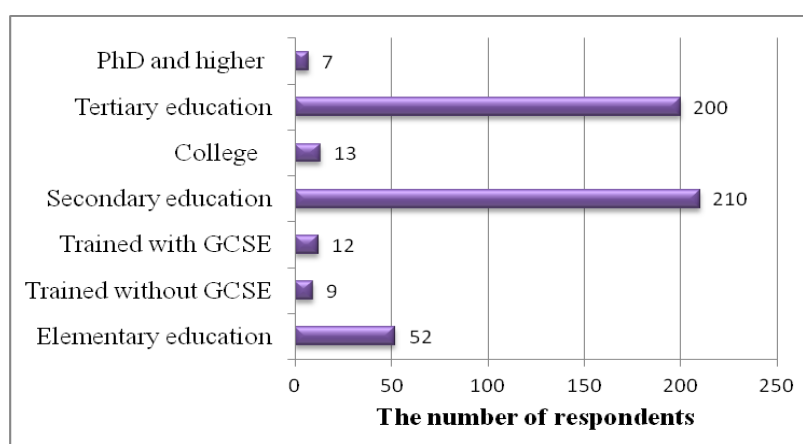
The youngest participant is 16 years old and the oldest is 79. The average age is 29.44 years. After Sturges rule there were created 28 age range intervals. The most frequent age of the respondents is in the interval from 22.75 to 25 years. The coefficient of variation reaches $V_x = 0.4048$. To illustrate the frequency, the polygon was used, see Fig. 1.



Source: Own

Fig. 1: Diagram of respondents' age

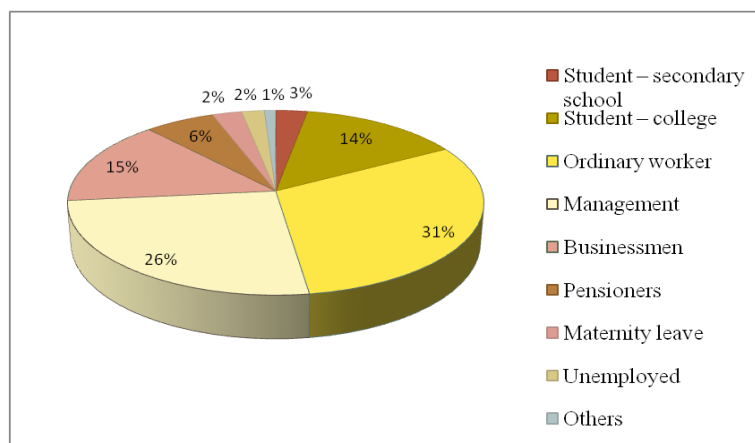
In terms of educational attainment of the respondents surveyed, secondary education is the most frequent, representing 41.75% of the total number of the respondents, and it is followed by university education that represents 39.76% of the total number of the respondents. The frequency of each educational level is shown in Fig. 2.



Source: Own

Fig. 2: Diagram of respondents' educational background

In terms of productivity, the most abundant variant (modem) is the position of the ordinary worker with 31% followed by the position of middle and senior management with 26%. Percentage is shown in Fig. 3.



Source: Own

Fig. 3: Diagram of respondents' productivity

In terms of income which the interviewed respondents reach there were surveyed the following results: after Sturges rule there were created 28 intervals with the variation range $R = 78,000$ Czech crowns, while the minimum range was 2,000 Czech crowns and the maximum was 80,000 Czech crowns. The average income is 15,800 Czech crowns. The standard deviation indicates that the individual income levels vary at a medium from the arithmetic average by $d = 8,688$ Czech crowns. The coefficient of variation reaches $V_x = 0.5498$.

1.2 The impact of payment and delivery of goods in the implementation of purchasing

In the survey the respondents were asked about stress that they lay on payment methods offered by e-shops. The respondents were gradually asked about four types of payments and the importance attached to the individual modes of payment. There was a five-point rating scale (1 = *I definitely agree, definitely important* to 5 = *I definitely disagree, definitely unimportant*). The variability of the respondents' responses to questions about payment methods was assessed by the coefficient of variation (1) which is calculated as a quotient of the standard deviation and the average:

$$V_x = \frac{s_x}{\bar{x}} \quad (1)$$

Payment by bank transfer received an average of 2.67 on the rating scale with the standard deviation of 1.33. The coefficient of variation in this case reaches 49.63%. In conclusion, we can state that 47.91% of the respondents consider this type of payment from the options menu of e-commerce payments as minimally important. 24.06% of the respondents take this way of payment neutrally and 28.03% of the respondents regard the option to pay by bank transfer as at least unimportant.

Payment online by credit card was rated 2.82 on average with the standard deviation 1.37. In this case, the coefficient of variation reaches 48.5%. The results show that 41.95% of the respondents consider this type of payment from the options menu of e-commerce payments as minimally important. 25.45% of the respondents take this way of payment neutrally and 32.6% of the respondents regard the option to pay online by credit card as at least unimportant.

Payment via specialized systems (PaySec, PayPal) was rated 3.49 on average with the standard deviation 1.28. In this case, the coefficient of variation reaches 36.79%. This value

means the lowest observed variability in the respondents' answers to the individual payment options. The results show that 20.48% of the respondents consider this type of payment from the options menu of e-commerce payments as minimally important. 29.82% of the respondents take this way of payment neutrally and 49.7% of the respondents regard the option to pay via the specialized systems as at least unimportant.

Payment on delivery was rated 1.49 on average with the standard deviation 1.49. The coefficient of variation in this case reaches 55.39%. The results show that 88.87% of the respondents consider this type of payment from the options menu of e-commerce payments as minimally important. 7.55% of the respondents take this way of payment neutrally and 3.58% of the respondents regard the option to pay on delivery as at least unimportant.

1.3 Survey of purchase depending on the method of payment and delivery of goods

One of the objectives of the research was to determine whether there is a correlation between the offered payment method and the actual purchase; in other words, whether the respondent – while deciding to make a purchase – is affected by the offer of payment options at the significance level of 5%. In order to determine the dependence, the correlation Table 1 was used.

Tab. 1: Correlation table – Purchase depending on the offer of payment options

	definitely yes	rather yes	neutral	rather no	definitely no	Row Total
bank transfer	125	116	121	81	60	503
online credit card	118	93	128	88	76	503
PaySec	50	53	150	103	147	503
on delivery	338	109	38	13	5	503
Column Total	631	371	437	285	288	2012

Source: Own

Null hypothesis: The offer of various payment methods does not affect the purchase decision.

Alternative hypothesis: The offer of various payment methods affects the purchase decision.

$$F = \frac{\frac{S_{ym}}{(k-1)}}{\frac{S_{yv}}{(n-k)}} \approx F(k-1; n-k) \quad (2)$$

$$W = [F; F \geq F_{0.95}(3; 2008)] [F; F \geq 2,6095] \quad (3)$$

$$F = 234.29$$

The determination ratio has a value of 0.259275 which indicates a weak dependence. Based on the total variability of purchase decisions, we can ascribe only 26% to the impact of payment options. η correlation ratio = 0.50919.

The resulting value belongs to the significance level of 5% in the critical field, therefore we refuse the null hypothesis and accept the alternative one. The variety of payment methods influences respondents to a certain extent when making purchase decisions.

Another goal of the research was to determine whether there is a correlation between the methods of delivery of goods and the actual purchase; in other words, whether the respondent, in deciding to make a purchase, is affected by the ways of goods delivery at a significance level of 5%. In order to determine the dependence, the correlation Table 2 was used.

Tab. 2: Correlation table – Purchase depending on the offer of methods of delivery of goods

	definitely yes	rather yes	neutral	rather no	definitely no	Row Total
PPL	199	166	96	21	21	503
post	174	187	105	18	19	503
personal collection	152	148	119	56	28	503
delivery to the apartment	152	132	107	62	50	503
Column Total	677	633	427	157	118	2012

Source: Own

Null hypothesis: The offer of various methods of delivery of goods does not affect the purchase decision.

Alternative hypothesis: The offer of various methods of delivery of goods affects the purchase decision.

Equations (2) and (3) were used to calculate F value.

$$F = 18.13$$

The determination ratio has a value of 0.02637 which indicates a weak dependence. Based on the total variability of purchase decisions, we can ascribe only 2.6% to the impact of methods of goods delivery. η correlation ratio = 0.1624.

The resulting value is the significance level of 5% in the critical range of values, and thus we refuse the null hypothesis and we accept the alternative hypothesis. The offer of the different options of goods delivery affects the respondents weakly when making purchasing decisions.

2 Testing the hypothesis concerning the mean number of days of fast delivery of goods

Another issue which was considered by the respondents was: “If you wanted your order was delivered quickly, would you mean by ‘quickly’ a number of working days?” According to the results of piloting, there was determined the assumption that the respondents understand the notion of fast delivery of goods as the mean value of two days. The sample of 503 responses was detected with an average value of 1.97217 days and the standard deviation is 1.00953. The expected number of days was tested at the significance level of 20%. There was an assumption of normality distribution.

Null hypothesis: $\mu = 2.0$

Alternative hypothesis: $\mu \neq 2.0$

Test criterion (Z-statistics)

$$U = \frac{\bar{x} - \mu}{\frac{s_x}{\sqrt{n}}} \quad (4)$$

Definition of the critical field

$$W = \left[U; u_{\frac{\alpha}{2}} \geq U \geq u_{1-\frac{\alpha}{2}} \right] \quad (5)$$

$$W = [U; -1.282 \geq U \geq 1.282] \quad (6)$$

$$U = \frac{1.97217 - 2}{\frac{1.00953}{\sqrt{503}}} = -0.61827 \quad (7)$$

With the probability of 80 %, the mean value of the time for fast delivery of goods is in the interval ($1.91448 < \mu < 2.02986$) days.

The resulting value of the test criterion is not in the critical field of values. The significance level of 20% has not proved that the assumption was not correct, and therefore, the null hypothesis is not rejected and the alternative hypothesis is not accepted. There is no evidence that the average speed delivery of goods was not 2 days.

Conclusion

In conclusion, it is possible to say that the most preferred payment method is clearly payment on delivery which is considered minimally important by 88.87% of the respondents when deciding to make a purchase. The least preferred payment, with the lowest response variability, is the method of payment via the specialized payment systems PayPal and PaySec, which is considered as minimally important by only 20.48% of the respondents.

In examining whether the offered payment method affects the realization of the purchase, there was found only weak dependence according to the result of the ratio determination value 0.259275. In examining whether the method of goods delivery affects realization of the purchase, there was found only a very weak dependence according to the results of the ratio determination value 0.02637.

According to the research findings, it has not been disproved that the mean number of days which the respondents take as the notion of “quick delivery” was not 2 days.

According to the investigation of the dependence of the amount of money, from which postage -according to the respondents- should be paid by the supplier, on the income, it is possible to say that we can ascribe only 7% of the total variability to this effect.

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LOGISTICKÉ ASPEKTY OVLIVŇUJÍCÍ ROZHODOVÁNÍ RESPONDENTŮ PŘI REALIZACI INTERNETOVÝCH NÁKUPŮ

Tento příspěvek se zabývá analýzou vlivu logistických aspektů na nákupní chování online zákazníků a na rozsah preferencí jednotlivých aspektů. Pozornost je věnována rozsahu vlivu způsobu platby a způsobu doručení zboží, které internetové obchody nabízejí, na nákupní rozhodování. V rámci těchto dvou vlivů je zkoumána variabilita odpovědí a možná závislost nákupního chování na zmíněných aspektech. Respondenti byli dále dotazováni na představu o tom, kolik dní pro ně znamená pojmem „rychlého dodání zboží“. V neposlední řadě byla zkoumána výše částky nákupu, od které by mělo být dle názoru respondentů poštovné a balné hrazeno e-shopem. Tento výzkum byl proveden na vzorku více než 500 respondentů. Pro zpracování byla použita deskriptivní statistika, testy hypotéz a korelace.

LOGISTISCHE ASPEKTE, WELCHE DIE ENTSCHEIDUNGEN DER BEFRAGTEN PERSONEN BEI DER IMPLEMENTIERUNG VON INTERNETEINKAUF BEEINFLUSSEN

Dieser Artikel handelt über die Analyse des Einflusses von logistischen Aspekten auf das Kaufverhalten von Online-Kunden sowie auf die Spannweite der Präferenzen individueller Aspekte. Besondere Aufmerksamkeit gilt dem Ausmaß des Einflusses der Zahlungsmethode und der Lieferungsart der Ware, welche die Internetläden anbieten, auf Kaufentscheidungen. Innerhalb dieser beiden Effekte wird die Variabilität der Antworten und der möglichen Abhängigkeit des Kaufverhaltens von den erwähnten Aspekten untersucht. Die Umfrageteilnehmer wurden weiters befragt, wie viele Tage für sie der Terminus „schnelle Lieferung“ beinhaltet. Schließlich wurde untersucht, ab was für einer Kaufmenge das Porto vom E-Shop getragen werden sollte. Diese Untersuchung wurde an einer Auswahl von mehr als 500 Respondenten durchgeführt. Dazu wurden deskriptive Statistiken, Tests von Hypothesen und Korrelationen verwendet.

LOGISTYCZNE ASPEKTY WPŁYWAJĄCE NA DECYZJE RESPONDENTÓW PODCZAS DOKONYWANIA ZAKUPÓW INTERNETOWYCH

Niniejszy artykuł poświęcony jest analizie wpływu aspektów logistycznych na zachowania klientów podczas dokonywania zakupów on-line oraz zakresowi preferowania poszczególnych aspektów. Uwagę poświęcono kwestii wpływu oferowanego przez sklepy internetowe sposobu płatności oraz sposobu dostarczenia towaru na decyzje o zakupie. W ramach tych dwóch wpływów badano zmienność odpowiedzi oraz możliwą zależność zachowania klienta od wymienionych aspektów. Ponadto respondentów pytano, ile dni dla nich oznacza pojęcie „szybka dostawa towaru”. Badano także wysokość sumy zakupów, od jakiej – zdaniem respondentów – sklep internetowy powinien finansować opłatę za przygotowanie i wysłanie przesyłki. Badania przeprowadzono na próbie ponad 500 respondentów. Do opracowania danych zastosowano statystykę deskryptywną, testy hipotez oraz korelacji.

ŠKOLSKÁ SOCIÁLNA PRÁCA V INKLUZÍVNEJ ŠKOLE

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Abstrakt

Prechod od segregácie cez integráciu až po inklúziu je politickou a odbornou témou postupujúcej transformácie českého a slovenského školstva. Spoločným menovateľom sa stáva úsilie o zmenu, dosiahnutie vyššej miery sociálnej spravodlivosti a uplatnenie ľudsko-právneho prístupu pri vytváraní rovných príležitostí pre výchovu a vzdelávanie. Do odborných diskusií o budúcej inkluzívnej škole sa sociálni pracovníci v oboch štátoch nezapájajú, napriek tomu, že podstatná časť ich klientely sú práve deti zo sociálne znevýhodneného prostredia. Profesia školských sociálnych pracovníkov je v oboch štátoch nerozpoznaná, napriek tomu, že vo svete ide o niekoľko desaťročí etablovanú profesiu. V príspevku analyzujeme základné prekážky ustanovenia pracovnej pozície školského sociálneho pracovníka v českom a slovenskom školstve a súčasne načrtávame argumenty v jej prospech.

Úvod

V pedocentricky orientovanom 20. storočí sa stáva problematika ľudských práv dieťaťa významnou politickou témou s konkrétnym presahom do vied o človeku a sociálnych vied. Prijatím Deklarácie práv dieťaťa [4] bol vytvorená východisková platforma pre mnohé ďalšie politické dokumenty, ovplyvňujúce rozvoj vzdelávacej a sociálnej politiky jednotlivých štátov sveta. K významným svetovým dokumentom patria v poslednom období napríklad Miléniové rozvojové ciele [9], podľa ktorých je potrebné „zabezpečiť do roku 2015, aby deti na celom svete, chlapci a dievčatá rovnako, mali možnosť absolvovať kompletne základné vzdelanie.“), alebo aj Lisabonská stratégia prijatá v roku 2000 [8]. Spoločným menovateľom vybraných kľúčových politických dokumentov 20. storočia je uznanie práv dieťaťa, špecificky práva na vzdelávanie. Kým na svetovej úrovni ešte aj v druhej dekáde 21. storočia zostáva stále naliehavou otázkou zabezpečenia základných sociálnych práv detí, v krajinách Európskej únie má problematika zabezpečenia základného vzdelania iné dimenzie a špecifiká. Spoločným cieľom vzdelávacej politiky na všetkých úrovniach je vytvorenie rovných príležitostí pre vzdelávanie všetkých detí.

Súčasný český a slovenský školstvo v posledných troch desaťročiach ešte stále charakterizuje hľadanie politického konsenzu, ale aj konkrétnych mechanizmov pre realizáciu reformy. Oba národné systémy spája spoločná história, kultúrna, politicko-ekonomická a demografická situácia. Politickou prioritou súčasnej vzdelávacej politiky oboch členských štátov Európskej únie je kurikulárna reforma, kvalita vzdelávania a inkluzívne vzdelávanie. Z mnohých

aktuálnych koncepcných dokumentov na úrovni štátnej vzdelávacej politiky oboch štátov vyplýva uznanie záväzkov vyplývajúcich z vyššie uvádzaných politických deklarácií. Sociálna spravodlivosť a rovnosť príležitostí sú hodnotami aj princípmi súčasnej vzdelávacej politiky, zdôrazňujúcej spoločenskú potrebu zmeny vzdelávania. Koncept inkluzívnej školy je široko diskutovaný a prioritizovaný. Kým v Českej republike je už realizovaná prípravná fáza Národného akčného plánu inkluzívneho vzdelávania na obdobie 2010–2013 [10], na Slovensku je presadenie konceptu inkluzívnej školy ako určujúceho na úrovni štátnej vzdelávacej politiky ešte stále predmetom diskusií a polemík. V oboch štátoch je predmetom záujmu vzdelávacej politiky vytvoriť také rámcové (legislatívne, finančné a organizačné) podmienky v základnom školstve, aby korešpondovali s európskym štandardom a rešpektovali princípy sociálnej spravodlivosti a rovných príležitostí pre všetkých žiakov. Špecificky sa pozornosť zameriava v súvislosti s predchádzajúcim konceptom integrácie na žiakov so špeciálnymi vzdelávacími potrebami a na žiakov zo sociálne znevýhodneného prostredia (najmä z rómskych komunít).

1 Nerozpoznaná školská sociálna práca

Školská sociálna práca prispievajúca k riešeniu náročných životných situácií (vrátane sociálnych udalostí) a presadzovaniu sociálnej spravodlivosti a práv dieťaťa, je v podmienkach českého a slovenského školstva neznámou veličinou, o ktorej sa nediskutuje. Sociálni pracovníci v oboch republikách sa do diskurzu o inkluzívnom školstve nezapájajú a to napriek tomu, že podstatná časť ich klientely sú rodiny s deťmi zo sociálne znevýhodneného prostredia a často aj rodiny s deťmi so špeciálnymi vzdelávacími potrebami. Príčinou daného stavu je absencia legislatívneho vymedzenia školskej sociálnej práce ako svojbytnej profesie. V oboch štátoch je od 70-tych rokov 20. storočia rozvíjaný komplexný poradenský systém, ktorý je zabezpečovaný pedagógmi a psychológmi. Napriek tomu, že v poslednom desaťročí v oboch štátoch boli etablované viaceré nové pracovné pozície, ktorých pracovná náplň reaguje na zvýšenú potrebu odborníkov na sociálne prostredie – napr. asistent pedagóga (v SR asistent učiteľa), metodik prevencie, špeciálny pedagóg, sociálny pedagóg a pod., profesia sociálnej práce v tomto systéme nie je vnímaná ako potrebná.

Slovenský zákon č. 245/2008 Z. z. o výchove a vzdelávaní [16] uvádza medzi činnosťami, poskytovanými v rámci poradenstva aj sociálnu činnosť (napríklad poskytovanie sociálneho poradenstva, či socioterapie), zákon č. 317/2009 Z. z. o pedagogických zamestnancoch a odborných zamestnancoch [17] pracovnú pozíciu sociálneho pracovníka nevymedzuje. Sociálna činnosť je realizovaná pedagogickými a odbornými zamestnancami, medzi ktorých sociálny pracovník podľa platnej legislatívy nepatrí.

V ČR vymedzuje zákon č. 563/2004 Sb. o pedagogických pracovních [15] pojem pedagogický pracovník a vymedzuje pojem priama pedagogická činnosť. Túto vykonáva podľa citovaného zákona (§ 2, ods. 2) aj špeciálny pedagóg, psychológ, asistent pedagóga. Problematika poradenských služieb v školách a školských zariadeniach je upravená vyhláškou 72/2005 Sb. o poskytovaní poradenských služieb ve školách a školských poradenských zařízeních, novelizovaná vyhláškou 116/2011 Sb. [14]. Vo vyhláške nie je explicitne zmieňovaná profesia sociálnych pracovníkov.

V oboch štátoch je možné uvažovať o sociálnej práci na úrovni praxe, keď sa táto realizuje

- **priamo v škole**, pričom túto činnosť vykonávajú rôzni odborní zamestnanci školy (výchovný poradca, koordinátor prevencie, sociálny pedagóg, príp. iní odborní zamestnanci školy), ktorých priamy nadriadený je riaditeľ školy. Títo spolupracujú navzájom, s pedagogickými zamestnancami, ako aj s rodičmi a vonkajšími organizáciami. V českej legislatíve sú používané termíny školský speciální pedagog (zaměstnanec

Špeciálne pedagogického centra alebo Pedagogicko-psychologické poradny) a školní speciální pedagog (zaměstnanec školy). Podobne vyhláška používa pojem školský a školní psycholog. V súčasnosti v ČR sú v oboch typoch školských poradenských zariadení zamestnaní aj sociálni pracovníci.

- **mimo prostredia školy**, pričom ju vykonávajú odborníci (psychológ, logopéd, špeciálny pedagóg, ...) – zamestnanci školského zariadenia (štátne alebo súkromné centrá pedagogicko-psychologického poradenstva a prevencie a centrá špeciálno-pedagogického poradenstva);
- **v zariadeniach na výkon ústavnej a ochrannej výchovy** (v Českej republike sú dané zariadenia v rezorte školstva, v Slovenskej republike v rezorte práce, sociálnych vecí a rodiny).

Sociálna práca v rezorte školstva má podobu praktickej činnosti, ktorá je vykonávaná množstvom rôznych odborníkov z oblasti pedagogiky a psychológie. Potreba autonómnej profesie školskej sociálnej práce je neidentifikovaná. Chýbajú výskumy odôvodňujúce súčasný stav absencie školskej sociálnej práce a zároveň identifikujúce jej potrebu.

2 Ustanovenie pracovnej pozície školského sociálneho pracovníka

Opierajúc sa o ekologicko-systémovú perspektívu sociálnej práce chápeme školu ako sociálny systém, ktorý sa vyznačuje takými znakmi ako autopeiéza, autonómia či homeostáza.

Základná škola je otvoreným sociálnym systémom, ktorý pôsobí a funguje ako súčasť širšieho prostredia, v ktorom dochádza k výmene informácií prostredníctvom formálnych a neformálnych vzájomne sa ovplyvňujúcich procesov. Zavedenie nového prvku do existujúceho funkčného systému je sprevádzané prirodzenou obrannou reakciou systému, čo predpokladáme aj v prípade diskusií o ustanovení novej pracovnej pozície školského sociálneho pracovníka. Jej etablovanie v súčasnom školskom systéme predpokladá celospoločenskú diskusiu o funkciách školy a kvalite vzdelávania, ako aj diskusiu na úrovni štátnej vzdelávacej politiky (zmena legislatívy, financovanie) a regionálnej vzdelávacej politiky (rozhodovanie o zriadení pracovnej pozície, alokovanie finančných zdrojov).

Okrem identifikovania nevyhnutnosti zmien na systémovej úrovni prestavením legislatívnych, finančných a organizačných podmienok pre etablovanie školskej sociálnej práce je dôležité pripomenúť potrebu zmien vo vnútri systému, to znamená na úrovni vnútornej integrácie podsystémov jednotlivých profesií, ktoré sa v súčasnosti podieľajú na plnení funkcií školy. Kompetenčný súboj spôsobený zápasom o nedostatočné finančné zdroje spolu s tradíciou dominancie pedagogickej a psychologickéj profesie v školstve sú základnými prekážkami rozvoja školskej sociálnej práce.

Ukazuje sa, že nositeľmi myšlienky zavedenia školskej sociálnej práce do existujúceho českého a slovenského školského systému musia byť samotní sociálni pracovníci. V českých a slovenských podmienkach to znamená, že by sa sociálni pracovníci, ktorí sa každodenne stretávajú vo svojej praxi s deťmi, ktoré potrebujú pomoc pri zvládaní školských povinností u detí so sociálnym znevýhodnením, začali zaoberať hľadaním možností riešenia aj v rámci školského systému. V súčasnosti sa obmedzujú na spoluprácu so školou v akútnych prípadoch.

„Tradičná“ cesta ustanovenia profesie školskej sociálnej práce tak, ako ju nižšie načrtávame, je v existujúcich podmienkach oboch štátov je neuskutočniteľná. Argumentujeme zmenenou politicko-ekonomickou situáciou a postupujúcou modernizáciou spoločnosti.

V zahraničí sa školská sociálna práca rozvíja od konca 19. storočia (Spojené štáty americké, Veľká Británia) alebo aspoň od 60-tych rokov 20. storočia (napr. Nemecko, škandinávské krajiny) a to ako inštitúcia modernej spoločnosti s uplatnením prístupu založenom na ľudských právach dieťaťa. Môžeme teda konštatovať, že pre vznik a neskôr aj jej inštitucionalizáciu a profesionalizáciu mala zásadný vplyv politicko-ekonomická situácia 20. storočia. Školská sociálna práca v týchto krajinách bola chápaná ako prvok komplexného systému služieb školy. V USA už v roku 1976 vydala Národná asociácia sociálnej práce Štandardy služieb školskej sociálnej práce, ktoré sú neustále revidované. V Nemecku je možné od konca 90-tych rokov pozorovať oživenie záujmu o školskú sociálnu prácu. Často je vymedzovaná aj ako forma sociálno-právnej ochrany mládeže (napr. ako „Schulbezogene Jugendarbeit“, „Schulbezogene Jugendhilfe“, „Soziale Arbeit an Schulen“, „Jugendarbeit an Schulen“). Predstavuje autonómnu profesiu s vymedzenými kompetenciami.

V susednom Poľsku je od roku 1975 ustanovená pracovná pozícia školského pedagóga (pedagog szkolny), ktorá vykonávajú spravidla absolventi študijného programu sociálna pedagogika (pedagogika społeczna). Poskytujú služby typické pre služby školskej sociálnej práce, ako posudzovanie sociálnej situácie, materiálna pomoc, spolupráca s organizáciami a inštitúciami sociálneho zabezpečenia a využívajú metódy sociálnej práce.

M. Huxtable [5] popisuje súčasnú situáciu rozvoja školskej sociálnej práce vo svete, pričom poukazuje na situáciu aj takých krajín ako je Malta, Argentína, Spojené arabské emiráty, či Hong Kong. Vo všeobecnosti možno konštatovať, že školská sociálna práca je rozvíjaná ako súčasť sociálnych služieb pre žiacku populáciu poskytovanú v rezorte školstva v 50-tich krajinách sveta. Úroveň rozvoja školskej sociálnej práce dokumentuje aj existencia národných asociácií školských sociálnych pracovníkov (napr. v USA, Fínsku, Švédsku, ale aj Ghane, či Mongolsku), ktoré sa venujú advokácii záujmov tejto profesie, komunikácii s ministerstvami školstva a ďalšími politickými aktérmi na úrovni štátnej vzdelávacej politiky. Ďalším ukazovateľom je aj súčasný stav výskumu v tejto oblasti, ktorý je intenzívne realizovaný v zahraničí od 70-tych rokov 20. storočia.

Z vyššie načrtnutých kontúr vzniku školskej sociálnej práce ako súčasti služieb školy vyplýva odlišnosť východiskových podmienok v druhej polovici 20. storočia v porovnaní so súčasnosťou. Etablovanie novej pracovnej pozície školského sociálneho pracovníka a rozvoj aplikovanej školskej sociálnej práce v oboch štátoch diskutujeme v čase vyrovnávania sa s dôsledkami svetovej finančnej krízy. Neoliberalizmus, prejavujúci sa tzv. novým manažerizmom v školstve (jeho podstatou je prenos manažérskych metód riadenia z oblasti priemyslu, čo obchodu a služieb do školstva) v spojení s postupujúcou modernizáciou spoločnosti odôvodňujú predpoklad odlišného spôsobu etablovania nových profesií. Je nerealistické očakávať, že samotný školský systém bez vonkajšieho impulzu bude akceptovať ustanovenie novej pracovnej pozície a profesie. Je úlohou sociálnych pracovníkov vstúpiť do diskurzu o postmodernej škole a jej úlohách upozornením na možnosť inovácie súčasného systému.

3 Argumenty v prospech školskej sociálnej práce

Sociálni pracovníci môžu argumentovať okrem vyššie načrtnutého rozvoja školskej sociálnej práce vo svete aj súčasnými potrebami žiackej populácie. Výsledky rôznych výskumov (napr. Broulíková, Kuchařová [2]; Pešatová [11]) poukazujú na negatívne tendencie v časti žiackej populácie, ako napríklad, že:

- rastie počet problémových detí z dobre situovaných rodín,

- pribúdajú sociálne deviácie u detí zo sociálne znevýhodneného prostredia, pretože nedostávajú včas sociálnu pomoc, prípadne sociálna pomoc nie je v jednotlivých etapách previazaná,
 - zvyšuje sa závažnosť excesov v správaní detí a mládeže,
- a zároveň sú argumentmi pre diskusiu o úlohách školy, sociálnom charaktere problémov žiakov, ale aj súčasných kompetenciách pedagogických a odborných zamestnancov základnej školy.

Sociálny pracovník je expertom na sociálne prostredie je. V systéme vzťahov rodina – škola – komunita môže uplatniť svoje vedomosti o mechanizme vplyvu sociálneho prostredia na jednotlivca. Ovláda dynamiku malej i veľkej sociálnej skupiny a organizácie, pozná riziká a potenciál sociálnych vzťahov, má poznatky o etiológii ohrozenia detí a mládeže, predovšetkým o negatívnych sociálnych vplyvoch, je schopný posúdiť účinok daného sociálneho prostredia na jedinca a disponuje metódami ovplyvňovania prostredia sociálnymi mechanizmami, pričom výsledky svojej práce môže dosiahnuť predovšetkým skupinovou prácou, prepojením mimoškolského prostredia a školského systému, mimoškolskou aktivitou a prácou so školou ako sociálnym systémom.

Prioritou školského sociálneho pracovníka je vytvoriť v škole zdravý sociálny systém poskytnutím služieb sociálnej práce, ktorý akceptuje individualitu žiaka, stimuluje jeho potenciál, podporuje pozitívne emócie, nevyvoláva strach, sprostredkúva zážitok úspechu, učí otvorene komunikovať, uprednostňuje kooperatívnosť atď. Tým všetkým prispieva k vytvoreniu optimálnych podmienok na zdravý vývin mladého človeka. Tento aspekt sociálnej práce možno definovať aj ako cielené rozvíjanie funkcií školy.

Peter Lengyel [6] popisuje v danom čase trojročné skúsenosti so zavádzaním školskej sociálnej práce v Považskej Bystrici, pričom vyzdvihuje význam zriadenia pracovnej pozície školského sociálneho pracovníka vo vzťahu k zvýšeniu sociálnej kontroly, riešenia problémov porúch správania a záškoláctva.

V odbornej literatúre (napr. Alderson [1], Speck [13]) sú teoreticky popísané viaceré modely školskej sociálnej práce, ktoré kopírujú rozvoj teórie sociálnej práce a školskej vzdelávacej politiky. V česko-slovenských podmienkach považujeme za inšpirujúce najmä tieto modely (Encyclopedia of Social Work [12]):

- **komunitný školský model** (Community School Model), ktorý je vychádza z prepojenosti komunity a školy ako sociálnych systémov. Komunita je v tomto modeli definovaná ako teritórium s obmedzenými sociálnymi a ekonomickými zdrojmi. Úlohou školského sociálneho pracovníka je vykonávať osvetu v komunite – informovať o ponuke školy a školských programoch na pomoc žiakom,
- **sociálno-interakčný model** (Social Interaction Model) zdôrazňuje reciprocitu vplyvov a intervencie, ktoré sú zacielené na jednotlivé typy a kvalitu výmen medzi žiakmi, skupinami žiakov, rodinami, školou a komunitou,
- **tzv. Costinovej model**, ktorý zdôrazňuje komplexitu interakcií medzi študentmi, školou a komunitou a ktorý vznikol ako projekt multi-univerzitného konzorcia zameraného na plánovanie zmeny v sociálnych službách pre žiakov.

V Nemecku sa sa uplatňuje od 90. r. 20. st. model vychádzajúci z teórie rolí a profesie (Rollen- und professionstheoretisches Begründungsmuster). Je výsledkom presadenia sa modelu sociálnej práce v školstve („Schulsozialarbeit“) na základe pochopenia, že učitelia nemôžu naplňať súbežne rolu pedagóga aj sociálneho pracovníka (z dôvodu nedostatku

poznatkov, času, rozporuplnosti úloh a rolí) a z poznania skutočnosti, že aj školstvo potrebuje mať špecialistu na sociálne prostredie a sociálne problémy žiakov (Speck [13]).

V zahraničí, kde je identifikovaná potreba školskej sociálnej práce, sú sociálni pracovníci zamestnancami školy alebo sú zamestnancami miestnej samosprávy, oddelení sociálno-právnej ochrany, kde majú špeciálne vymedzenú pracovnú náplň a kompetencie zodpovedajúce vyššie popísaným charakteristikám školskej sociálnej práce.

Záver

Vzhľadom na existujúce demografické prognózy bude presadenie myšlienky ustanovenia novej pracovnej pozície školských sociálnych pracovníkov potrebné najmä v súvislosti so zvyšujúcim sa počtom detí zo sociálne znevýhodneného prostredia. Sociálni pracovníci sa musia stať aktívnymi v diskurze o budúcnosti inkluzívneho školstva a potenciálu školskej sociálnej práce. Argumentáciu v prospech školskej sociálnej práce je potrebné podporiť minimálne pôvodnými českými a slovenskými výskumami, ktorých výsledky by poukázali na názory jednotlivých aktérov na jej potrebnosť.

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SCHOOL SOCIAL WORK IN AN INCLUSIVE SCHOOL

Moving from segregation through integration to inclusion is a political and professional issue of progressive transformation within the Czech and Slovak Education System. Effort to change, achievement of higher degree of social justice and human rights enforcement approach become the common denominators while creating equal opportunities in education. In both countries social workers do not get involved in professional discussions on future inclusive school, despite the fact that a substantial part of their clients are children from socially disadvantaged backgrounds. Profession of school social workers in the Czech and Slovak Republics is unrecognized, even though it has been an established profession in the world for a few decades. In this paper we analyze the fundamental barriers of establishing a school social worker's job position within the Czech and Slovak education system while at the same time we offer several arguments in its favor.

SCHULSOZIALARBEIT IN DER INKLUSIVEN SCHULE

Der Übergang von der Segregation über die Integration bis zur Inklusion ist ein politisches und fachliches Thema der progressiven Transformation im tschechischen und slowakischen Schulwesen. Zum gemeinsamen Nenner wird die Bemühung um eine Veränderung, um Erreichung eines höheren Maßes an sozialer Gerechtigkeit und Geltendmachung der Anwendung eines menschenrechtlichen Zuganges bei der Schaffung von Chancengleichheit für die Erziehung und Bildung. An den Fachgesprächen über die Zukunft der inklusiven Schule beteiligen sich die Sozialarbeiter in beiden Ländern nicht, trotz der Tatsache, dass ein erheblicher Teil ihrer Kunden gerade Kinder aus sozial benachteiligten Verhältnissen sind. Der Beruf der Schulsozialarbeiter ist in beiden Ländern geradezu unbekannt, obwohl es in der Welt ein paar Jahrzehnte ein etablierter Beruf ist. In diesem Beitrag analysieren wir die grundlegenden Hindernisse der Errichtung des Arbeitsfeldes des Schulsozialarbeiters im tschechischen und slowakischen Schulwesen und zugleich deuten wir Argumente zu dessen Gunsten an.

SZKOLNA PRACA SOCJALNA W SZKOLE INKLUZYJNEJ

Przejście od segregacji poprzez integrację do inkluzji stanowi polityczny oraz merytoryczny temat postępującej transformacji czeskiego i słowackiego systemu oświaty. Wspólnym mianownikiem staje się dążenie do zmiany, osiągnięcie wyższego stopnia sprawiedliwości społecznej i stosowanie podejścia prawno-społecznego podczas tworzenia równych szans w zakresie wychowania i oświaty. Pracownicy socjalni w obu krajach nie angażują się w merytorycznych dyskusjach na temat przyszłej szkoły inkluzyjnej, pomimo faktu, że znaczną część ich klientów stanowią dzieci pochodzące ze środowisk będących w niekorzystnej sytuacji socjalnej. W obu krajach nie istnieje zawód szkolnego pracownika socjalnego, chociaż w wielu państwach świata to zawód funkcjonujący od kilkudziesięciu lat. W niniejszym artykule dokonano analizy podstawowych barier stworzenia stanowiska szkolnego pracownika socjalnego w czeskim i słowackim systemie oświaty, przedstawiając jednocześnie argumenty na jego korzyść.

THE ANALYSIS OF AVAILABLE AND REQUIRED SOLVENCY MARGIN OF NON-LIFE INSURANCE IN THE FRAME OF THE CZECH INSURANCE MARKET AT YEARS 2004 TO 2011

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Abstract

This paper deals with the statistical analysis of available and required solvency margin of non-life insurance in the frame of the Czech insurance market at years 2004 to 2011. Solvency refers to, as the Act No. 277/2009 Coll., ability of undertaking its own resources to ensure continued ability to meet liabilities arising from insurance or reinsurance activities. Monitoring the level of solvency of insurance companies is very important, not only with regard to determining their financial health. Another important aspect is whether the Czech insurance market, with regard to the insurance company financially healthy, is ready for the introduction of a new regulatory framework Solvency II. Individual consequences of the implementation of this framework to the management of insurance companies are still only estimates. Solvency II is to be gradually introduced from 2014, changing not only the possibility of calculating the solvency requirements, but also introduces various other measures.

Introduction

The concept of solvency is defined in the legislative framework of the Czech Republic in the Law on Insurance No. 277/2009 Coll. as ability of undertaking its own resources to ensure continued ability to meet liabilities arising from insurance or reinsurance activities. Meet commitments, means the proven ability to meet the insurance and reinsurance liabilities arising from insurance or reinsurance business, including obligations payable in subsequent accounting periods.

The Law on Insurance also defined the terms available solvency margin (*ASM*) and required solvency margin (*RSM*). The available solvency margin means the adjusted amount of own funds of an insurance or reinsurance. The required solvency margin means the minimum solvency margin.

1 Analysis of solvency margins

1.1 Basic survey of solvency margins

The Czech insurance market ranks with small insurance market, but the sum of available solvency margin of non-life insurance from insurance companies (from Czech insurance market) is in sum of year 2011 in the amount of CZK 28 265 million., required solvency margin is in sum of year 2011 in the amount of CZK 8 423 million. The percentage share of available solvency margin and required solvency margin of non-life insurance was 336% in year 2009.

There is a special book about calculation of capital adequacy in the finance and solvency in the insurance and about Solvency II [1], [2] and differences in calculation of solvency ratio within Solvency I and Solvency II are presented in the dissertation thesis [3].

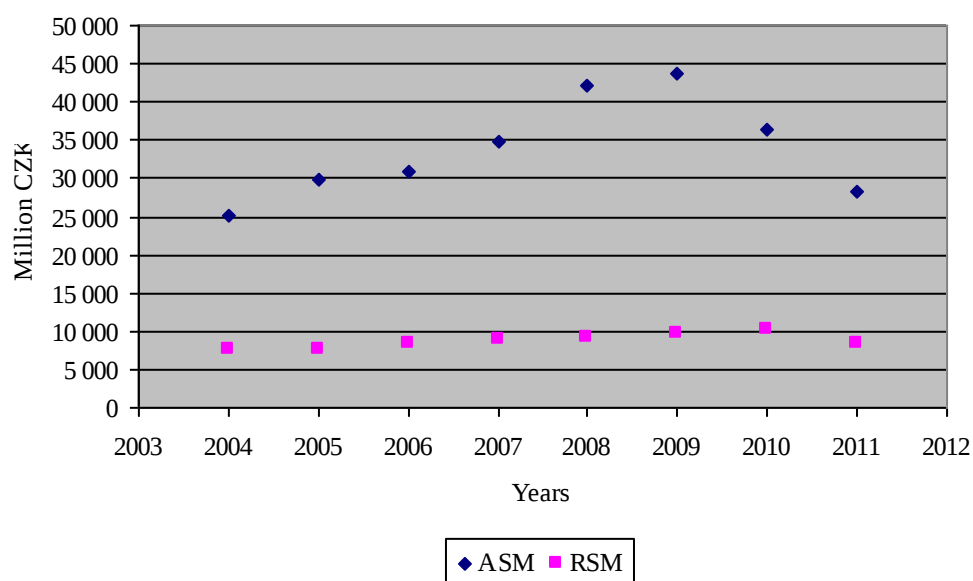
Tab. 1 shows data of development of available, required solvency margin and their share in non-life insurance in the frame of Czech insurance market. The trend of the development of ASM and RSM is illustrated in Fig. 1 and the development of percentage share of ASM and RSM is illustrated in Fig. 2. The higher the share ASM/RSM , the more favorable situation is for insurers, which indicates the amount of equity corresponds to its commitments. In another part of the article, both solvency margins are statistically analyzed in detail.

Tab. 1: Development of available and required solvency margin in non-life insurance in 2004–2011 (million CZK)

	2004	2005	2006	2007	2008	2009	2010	2011
ASM	25 113	29 760	30 936	34 841	42 230	43 654	36 367	28 265
RSM	7 546	7 696	8 400	8 848	9 172	9 722	10 258	8 423
Share ASM/RSM (%)	333%	387%	368%	394%	460%	449%	355%	336%

Source: self elaboration from [4], [5], [6]

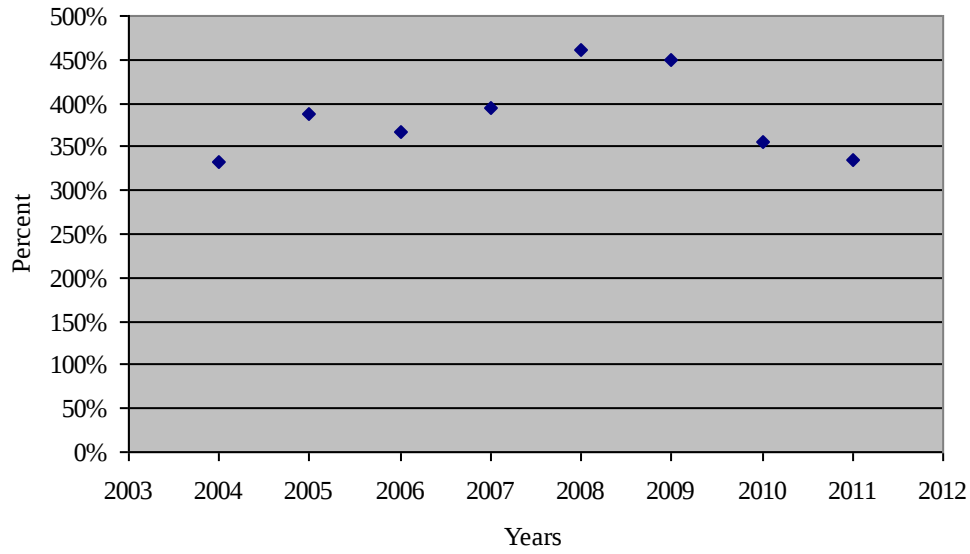
The results in Tab. 1 show that the share of ASM and RSM in the period is gradually increasing to 2011 in which you can observe a slight decrease.



Source: self elaboration from Tab. 1

Fig. 1: Development of available and required solvency margin in non-life insurance in 2004–2011 (CZK million)

According to the results of Fig. 2, the lowest share of ASM/RSM was in year 2004 in the amount of more than 330%, this share for seven years increased by only 6% to 336%, however between these two years the development of this ratio was very unstable.



Source: self elaboration from Tab. 1

Fig. 2: Development of percentage share ASM/RSM in non-life insurance in 2004–2011 (million CZK)

1.2 Statistical analysis

The values y_t for available solvency margin are in Tab. 2 and for required solvency margin in Tab. 3. The subscript t in next equations characterizes time period (in this paper one year).

The results of next five indicators [7]:

the first difference (absolute gain, ${}_1\Delta_t$), the second difference (1):

$${}_2\Delta_t = {}_1\Delta_t - {}_1\Delta_{t-1} \quad (1)$$

the growth coefficient (2):

$$k_t = \frac{y_t}{y_{t-1}} \quad (2)$$

the growth rate (3):

$$T_{y_t} = k_t \cdot 100 \quad (3)$$

the increase rate (4)

$$\delta_{y_t} = T_{y_t} - 100 \quad (4)$$

are presented for available solvency margin in Tab. 2 and for required solvency margin in Tab. 3.

The average absolute gain (5) and the average growth coefficient (6) belong to the important characteristics [7].

$${}_1\bar{\Delta} = \frac{\sum_{t=2}^n {}_1\Delta_t}{n-1} = \frac{y_n - y_1}{n-1} \quad (5)$$

The results of average absolute gain is for available solvency margin CZK 450 285 714 and for required solvency margin CZK 125 285 714.

$$\bar{k} = n^{-1} \sqrt{\frac{y_n}{y_1}} \quad (6)$$

where n is the number of values (in this paper $n = 6$).

The results of average growth coefficient are for available solvency margin 0.992664052 (which corresponds to 0.73% decrease) and for required solvency margin 1.04784757 (which corresponds to 4.79% growth).

Tab. 2: Elementary characteristic development of available solvency margin

Year	Available solvency margin (million CZK) (y_t)	${}_1\Delta t$	${}_2\Delta t$	k_t	T_{yt}	δ_{yt}
2004	25 113	×	×	×	×	×
2005	29 760	4 647	×	1.185044	118.5044	18.50436
2006	30 936	1 176	-3 471	1.039516	103.9516	3.95161
2007	34 841	3 905	2 729	1.126228	112.6228	12.62283
2008	42 230	7 389	3 484	1.212078	121.2078	21.20777
2009	43 654	1 424	-5 965	1.033720	103.3720	3.37201
2010	36 367	-7 287	-8 711	0.833074	83.3074	-16.69260
2011	28 265	-8 102	-815	0.777216	77.7216	-22.27840

Source: self elaboration from Tab. 1

Tab. 3: Elementary characteristic development of required solvency margin

Year	Available solvency margin (million CZK) (y_t)	${}_1\Delta t$	${}_2\Delta t$	k_t	T_{yt}	δ_{yt}
2004	7 546	×	×	×	×	×
2005	7 696	150	×	1.019878	101.9878	1.98781
2006	8 400	704	554	1.091476	109.1476	9.14761
2007	8 848	448	-256	1.053333	105.3333	5.33333
2008	9 172	324	-124	1.036618	103.6618	3.66184
2009	9 722	550	226	1.059965	105.9965	5.99651
2010	10 258	536	-14	1.055133	105.5133	5.51327
2011	8 423	-1 835	-2 371	0.821115	82.1115	-17.88850

Source: self elaboration from Tab. 1

According to the analysis results listed in Tab. 2, the largest annual increase of ASM was in the year 2008 in the amount of CZK 7 389 million with the growth coefficient 21.2% and the largest annual decline of ASM was in the year 2011 in the amount of CZK (-) 8 102 million with the coefficient of decrease 22.28%.

According to the analysis results listed in Tab. 3, the largest annual increase of RSM was in the year 2006 in the amount of CZK 704 million with the growth coefficient 9.14% and the largest annual decline of RSM was in the year 2011 in the amount of CZK (-) 1 835 million with the growth coefficient 17.89%.

The number of insurance companies by percent share of ASM/RSM in non-life insurance illustrated Tab. 4.

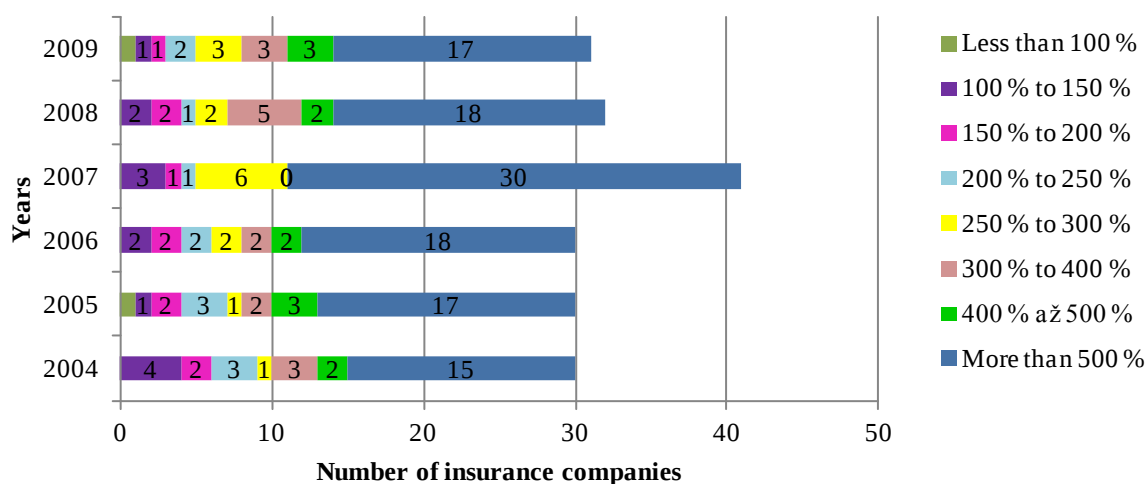
According to the values listed in Tab. 4 the highest number of insurance companies by percent share of ASM/RSM has the share more than 500%. These values from Tab. 4 are graphically shown in Fig. 3 and in percent share from total insurance companies are given in Tab. 5.

Tab. 4: Number of insurance companies by percent share of ASM/RSM in non-life insurance

Number of insurance companies	2004	2005	2006	2007	2008	2009	2010	2011
Less than 100%	0	1	0	0	0	1	–	–
100% to 150%	4	1	2	3	2	1	–	–
150% to 200%	2	2	2	1	2	1	–	–
200% to 250%	3	3	2	1	1	2	–	–
250% to 300%	1	1	2	6	2	3	–	–
300% to 400%	3	2	2	0	5	3	–	–
400% to 500%	2	3	2	0	2	3	–	–
More than 500%	15	17	18	30	18	17	–	–
TOTAL	30	30	30	41	32	31	–	–

Source: self elaboration from [4], [5]

Fig. 3 shows that the number of insurance companies, which have a ratio of ASM and RSM from 100% to 150% from 2007, this number is decreasing as the number of insurance companies this share is more than 500%.



Source: self elaboration from Tab. 4

Fig. 3: Number of insurance companies with different ratio of ASM and RSM

As seen from Tab. 4, in 2007 11 insurance companies were added to the insurance market. This leap does significantly influence the ASM but not the RSM (see Tab. 4) in the year 2008 (with one-year delay). For the years 2010 and 2011 there are missing data – for this period the Czech National Bank (CNB) has not such data, and just development of solvency in the last two years would be very interesting.

Tab. 5: Number of insurance companies in percent by percent share of ASM/RSM in non-life insurance

Percentage of insurance companies	2004	2005	2006	2007	2008	2009	2010	2011
Less than 100 %	0%	3%	0%	0%	0%	3%	–	–
100 % to 150 %	13%	3%	7%	7%	6%	3%	–	–
150 % to 200 %	7%	7%	7%	2%	6%	3%	–	–
200 % to 250 %	10%	10%	7%	2%	3%	6%	–	–
250 % to 300 %	3%	3%	7%	15%	6%	10%	–	–
300 % to 400 %	10%	7%	7%	0%	16%	10%	–	–
400 % to 500 %	7%	10%	7%	0%	6%	10%	–	–
More than 500 %	50%	57%	60%	73%	56%	55%	–	–
TOTAL	100%	100%	100%	100%	100%	100%	–	–

Source: self elaboration from Tab. 4

The results in Tab. 5 about the financial health of insurance companies in the Czech insurance market, offering non-life insurance, suggests that in 2009 had 91% of insurers share of ASM and RSM greater than 200 %, which is very satisfactory result in non-life insurance.

Conclusion

The article deals with the statistical analysis of one of the most important tools for identifying the financial health of insurance companies offering non-life insurance in the Czech insurance market for the period 2004 to 2011. It's clear from the analysis mentioned in the article that most insurance companies, 91% (in 2009), have the share of ASM and RSM, and is greater than 200%, which can be considered as quite a satisfactory result. It should be noted that in non-life insurance in recent years, often with the term “unknown unknowns” (Future circumstances, events, or outcomes that are impossible to predict, plan for, or even to know where or when to look for them. [8]), but their does not yet factor in the amount of insurance or reinsurance to insurance protection. Another important fact is that the development of ASM has recorded a steady decline since 2009, as well as the development of RSM declined in the last year. ASM and RSM decrease can be explained by the introduction of Solvency II requirements into the management of insurance companies.

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ANALÝZA DISPONIBILNÍ A POŽADOVANÉ MÍRY SOLVENTNOSTI NEŽIVOTNÍCH POJIŠTĚNÍ V RÁMCI ČESKÉHO POJISTNÉHO TRHU V LETECH 2004 AŽ 2011

Tento článek se zabývá statistickou analýzou disponibilní a požadované míry solventnosti neživotních pojištění v rámci českého pojistného trhu v letech 2004 až 2011. Solventností se rozumí, dle zákona č. 277/2009 Sb., schopnost pojišťovny nebo zajišťovny zabezpečit vlastními zdroji trvalou splnitelnost závazků z pojišťovací nebo zajišťovací činnosti. Sledování míry solventnosti pojišťoven je velmi důležité, a to nejen s ohledem na určování jejich finanční zdraví. Dalším důležitým aspektem je, zda český pojistný trh, pokud jde o finančně zdravé pojišťovny, je připraven na zavedení nového regulačního rámce Solventnost II. Jednotlivé důsledky zavádění tohoto rámce na hospodaření pojišťoven jsou stále jen odhadovány. Solventnost II má být postupně zaváděna od roku 2014, mění nejen možnost výpočtu solventnosti, ale také zavádí řadu dalších opatření.

ANALYSE DER TATSÄCHLICHEN UND DER GEFORDERTEN SOLVABILITÄTSSPANNE NON-LEBENSVERSICHERUNG IN DEN TSCHECHISCHEN VERSICHERUNGSMARKT FÜR DEN ZEITRAUM 2004 BIS 2011

Dieser Artikel beschäftigt sich mit der statistischen Analyse der verfügbaren und der geforderten Solvabilitätsspanne von Nicht-Lebensversicherungen in den tschechischen Versicherungsmarkt 2004 bis 2011. Solvency Mitteln, gemäß dem Gesetz Nr. 277/2009 Slg., Die Fähigkeit des Unternehmens, ihre eigenen Ressourcen zu sichern, um dauerhafte Verpflichtungen aus Versicherungs-oder Rückversicherungsunternehmen Tätigkeiten gerecht zu werden. Die Überwachung der Solvabilitätsspanne von Versicherungsunternehmen ist sehr wichtig, nicht nur im Hinblick auf die Bestimmung ihrer finanziellen Gesundheit. Ein weiterer wichtiger Aspekt ist, ob die tschechischen Versicherungsmarkt in Bezug auf finanziell solide Versicherungsgesellschaft bereit, einen neuen Rechtsrahmen Solvency II einzuführen. Einzelne Folgen der Umsetzung dieses Rahmens über die Verwaltung von Versicherungen nach wie vor nur geschätzt. Solvency II ist die schrittweise ab 2014 eingeführt werden, verändern nicht nur die Möglichkeit der Berechnung der Solvabilität, sondern führt auch eine Reihe anderer Maßnahmen.

ANALIZA DOSTĘPNEGO I WYMAGANEGO MARGINESU WYPŁACALNOŚCI UBEZPIECZEŃ MAJĄTKOWYCH W RAMACH CZESKIEGO RYNKU UBEZPIECZEŃ W LATACH 2004 DO 2011

Ten artykuł dotyczy analizy statystycznej dostępnego i wymaganego marginesu wypłacalności ubezpieczeń majątkowych w czeskim rynku ubezpieczeń od 2004 do 2011. Oznacza wypłacalności, zgodnie z ustawą nr 277/2009 Dz.U., zdolność przedsiębiorstwa do zabezpieczenia swoich zasobów stałych w celu wypełnienia zobowiązań od zakładów ubezpieczeń lub zakładów aktywności. Monitorowanie marginesu wypłacalności firm ubezpieczeniowych jest bardzo ważna, nie tylko w odniesieniu do określenia ich kondycji finansowej. Innym ważnym aspektem jest to, czy czeski rynek ubezpieczeniowy w zakresie finansowo dźwięku firmy ubezpieczeniowej, jest gotowy do wprowadzenia nowych ram regulacyjnych Solvency II. Indywidualne skutki realizacji niniejszego programu ramowego w sprawie zarządzania firm ubezpieczeniowych nadal są tylko szacunkowe. Solvency II ma być stopniowo wprowadzany od 2014 r., zmieniając nie tylko możliwość obliczania wypłacalności, ale wprowadza również szereg innych środków.

TIME SERIES ANALYSIS AND THEIR DEVELOPMENT PREDICTION OF GROSS PREMIUM WRITTEN OF LIABILITY INSURANCE OF EMPLOYERS FOR WORK INJURIES AND OCCUPATIONAL DISEASES IN THE FRAME OF THE CZECH INSURANCE MARKET

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Abstract

This paper deals with the time series analysis and their development prediction of gross premium written of liability insurance of employers for work injuries and occupational diseases in the frame of the Czech insurance market for years 2012 and 2013. The time series are defined as a sequence of data points, measured typically at successive times, spaced at time intervals. Data in this modeling are gross premium written of liability insurance of employers for work injuries and occupational diseases of members of CAP (Czech Insurance Association, within the analyzed insurance, this association covers 100% of the Czech insurance market) in years 2001 to 2011. This analysis does not include economic factors (for example: inflation, economic progress, economic recession, economic shocks).

Introduction

All employers who have at least one employee are required to be insured against liability for damage, accident at work or occupational diseases (statutory insurance). If employers arranged this insurance with the Česká pojišťovna, a.s. by 31 December 1992, they are insured with the insurance company. Other employers are insured by the insurer Kooperativa, pojišťovna, a.s.

When characterizing the Czech insurance market, several basic economic indicators appear. For example, gross premium written of life and non-life insurance, number of insurance contracts, number of employees in insurance companies and so forth. In this paper, gross premium written of liability insurance of employers for work injuries and occupational disease (in legislative conditions of the Czech Republic, it is the only statutory insurance) within years 2001 to 2011 will be analyzed and their development prediction for years 2012 and 2013 will be given. The data for this analysis used from the Czech Insurance Association (CAP) and from the Czech National Bank (CNB). The analysis is developed for the Student Project Grant Competition 2012; grant No. 3838. Time series analysis is discussed in many textbooks, see Hamilton (1994) [1]; Hindls, Hronová and Novák (2000) [2]; Chatfield (2003) [3] and Tsay (2005) [4].

In the first part of this paper, basic characteristic development of time series will be analyzed.

The second part will aim at identification of the trend by means of hypotheses tests, than an acceptable model with prediction for years 2012 and 2013 will be chosen. The estimate of trend function values will be analyzed by using the statistic program Statgraphic Centurion XVI. In the final tables *R.M.S.E.* (root mean square error), $I_{adjusted}^2$ (adjusted index of determination), *t-tests* (tests criterion), *P-values* (critical significance limits) and total *F-test*

will be presented. Each contribution must have a chapter called “Introduction” which is not numbered.

1 Time Series Analysis

1.1 Basic Characteristic Development of Time Series

For calculation of basic characteristic development of time series it is necessary analyze data about development of gross premium written of liability insurance of employers for work injuries and occupational disease and total gross premium written of non-life insurance and their percentage proportion (see Tab. 1 and Fig. 1). Another interesting indicator in the insurance is a loss ratio, which is the share of claims costs (total benefit) and total gross premiums written (see Tab. 2 and Fig. 2).

Tab. 1: Development of Gross Premium Written of Insurance of Employers for Work Injuries and Occupational Disease

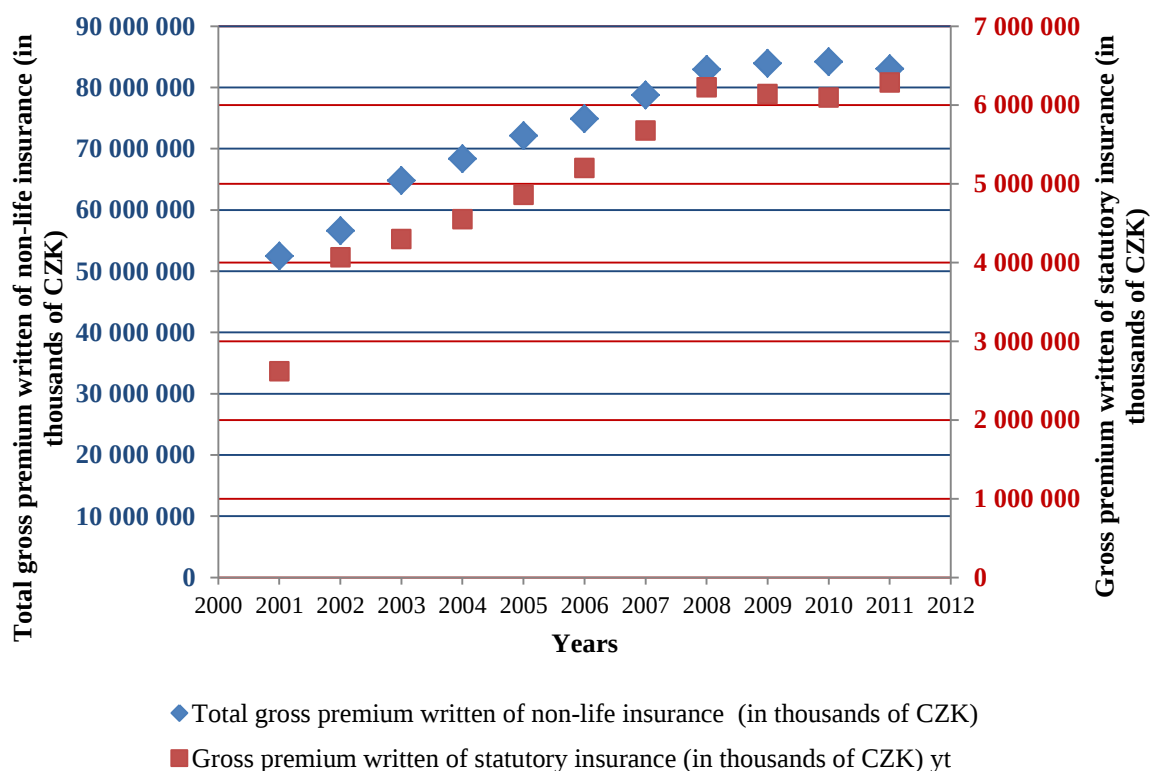
Year (t)	Total gross premium written of non-life insurance (in thousands of CZK)	Gross premium written of statutory insurance (in thousands of CZK) y_t	Percentage share of gross premium written of statutory insurance in total gross premium written (%)
2001	52 462 237	2 618 722	4.99
2002	56 624 001	4 067 310	7.18
2003	64 817 070	4 297 011	6.63
2004	68 377 194	4 550 996	6.66
2005	72 125 154	4 859 277	6.74
2006	74 889 748	5 199 571	6.94
2007	78 767 841	5 675 928	7.21
2008	82 942 866	6 222 365	7.50
2009	83 961 630	6 139 931	7.31
2010	84 231 496	6 094 095	7.23
2011	83 083 478	6 285 543	7.57

Source: Own from [5], [6]

Tab. 2: Development of Gross Premium Written of Insurance of Employers for Work Injuries and Occupational Disease

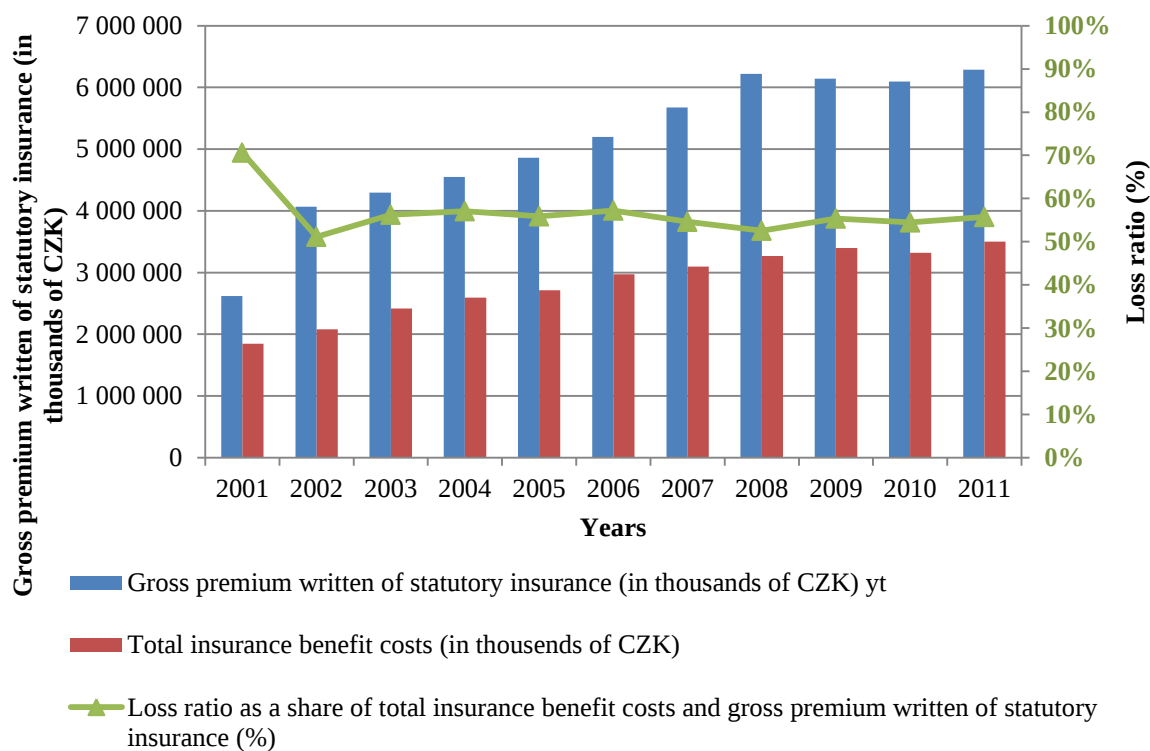
Year (t)	Gross premium written of statutory insurance (in thousands of CZK) y_t	Total insurance benefit costs (in thousands of CZK)	Loss ratio as a share of total insurance benefit costs and gross premium written of statutory insurance (%)
2001	2 618 722	1 849 074	71
2002	4 067 310	2 079 224	51
2003	4 297 011	2 415 953	56
2004	4 550 996	2 595 634	57
2005	4 859 277	2 713 900	56
2006	5 199 571	2 973 255	57
2007	5 675 928	3 098 801	55
2008	6 222 365	3 269 080	53
2009	6 139 931	3 397 763	55
2010	6 094 095	3 317 664	54
2011	6 285 543	3 502 693	56

Source: Own elaboration from [5], [6]



Source: Own elaboration from Tab. 1

Fig. 1: Development of Gross Premium Written of Total No-life Insurance and Statutory Insurance



Source: Own elaboration from Tab. 2

Fig. 2: Development of Gross Premium Written of Statutory Insurance and Total Insurance Benefits Costs with Development of Loss Ratio

The values y_t for statutory insurance are in Tab. 2. The subscript t in next equations characterizes time period (in this paper one year).

We consider other six indicators [2], [4]:

the first difference (absolute gain, ${}_1\Delta_t$), the second difference

$${}_2\Delta_t = {}_1\Delta_t - {}_1\Delta_{t-1} \quad (1)$$

growth coefficient

$$k_t = \frac{y_t}{y_{t-1}} \quad (2)$$

the growth rate

$$\delta_{y_t} = T_{y_t} - 100 \quad (3)$$

increase rate

$$T_{y_t} = k_t \cdot 100 \quad (4)$$

are given for statutory insurance in Tab. 3. In Fig. 3, the development of values of absolute gain is shown.

The average absolute gain (5) and the average growth coefficient (6) are of important characteristics [2], [4]

$${}_1\bar{\Delta} = \frac{\sum_{t=2}^n {}_1\Delta_t}{n-1} = \frac{y_n - y_1}{n-1}, \quad (5)$$

where n is the number of values (in this paper $n = 11$).

The results of average absolute gain is 366 682 100 CZK for statutory insurance.

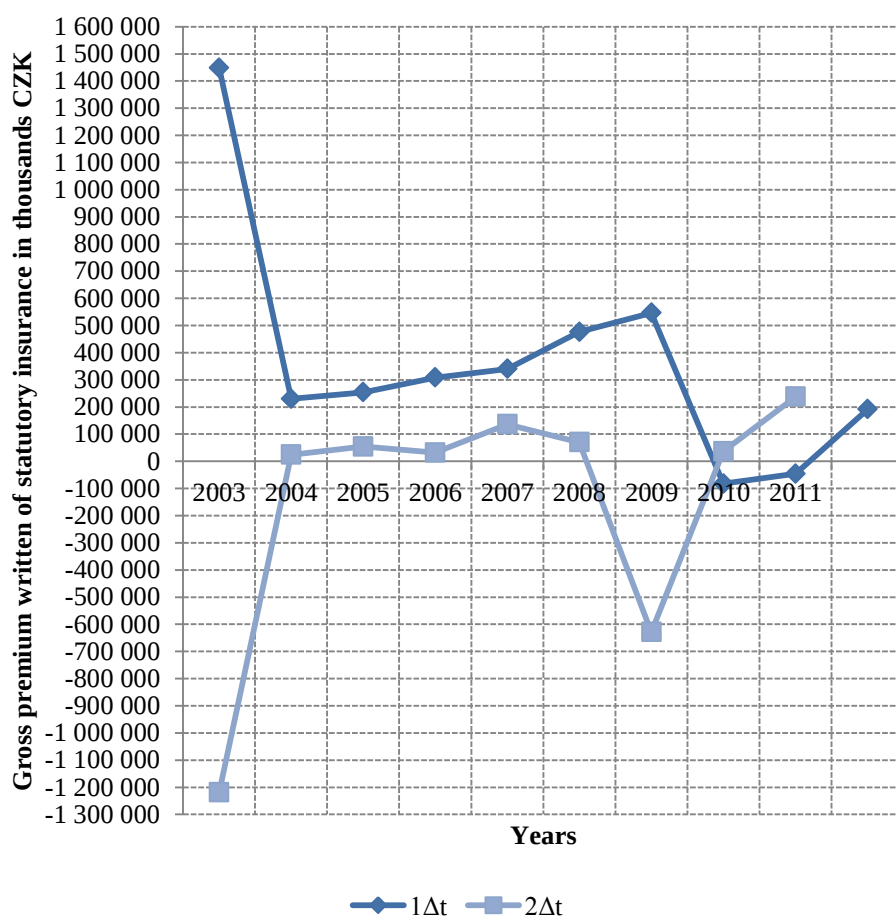
$$\bar{k} = \sqrt[n-1]{\frac{y_n}{y_1}} \quad (5)$$

The results of average growth coefficient are 1.091504 (which corresponds to 9.15%) for statutory insurance.

Tab. 3: Elementary Characteristic Development of Gross Premium Written of Statutory Insurance

Year (t)	Gross premium written of statutory insurance in thousands CZK (y_t)	${}_1\Delta_t$	${}_2\Delta_t$	k_t	T_{yt}	δ_{yt}
2001	2 618 722	×	×	×	×	×
2002	4 067 310	1 448 588	×	1.553166	155.3166	55.32
2003	4 297 011	229 701	-1 218 887	1.056475	105.6475	5.65
2004	4 550 996	253 985	24 284	1.059107	105.9107	5.91
2005	4 859 277	308 281	54 296	1.067739	106.7739	6.77
2006	5 199 571	340 294	32 013	1.070030	107.0030	7.00
2007	5 675 928	476 357	136 063	1.091615	109.1615	9.16
2008	6 222 365	546 437	70 080	1.096273	109.6273	9.63
2009	6 139 931	-82 434	-628 871	0.986752	98.67520	-1.32
2010	6 094 095	-45 836	36 598	0.992535	99.25348	-0.75
2011	6 285 543	191 448	237 284	1.031415	103.1415	3.14

Source: Own elaboration from Tab. 1



Source: Own elaboration from Tab. 3

Fig. 3: Development of First and Second Difference of Gross Premium Written of Statutory Insurance

1.2 Identification of the Trend

The trend identification was analyzed by the program Statgraphics Centurion.

The results of tests of individual trend functions parameters can be find in Tab. 4.

Tab. 4: Linear, Quadratic and Exponential Trend (Gross Premium Written of Statutory Insurance)

Trend	Linear trend	Quadratic trend	Exponential trend
Trend function	$T_t = \beta_0 + \beta_1 t$	$T_t = \beta_0 + \beta_1 t + \beta_2 t^2$	$T_t = e^{(\beta_0 + \beta_1 t)}$
Trend function forecast	$\hat{T}_t = 3107200000 + 330781000t$	$\hat{T}_t = 2324830000 + 691872000t - 30090900t^2$	$\hat{T}_t = e^{(21.8924 + 0.0717134t)}$
R.M.S.E.	375 252 000	247 599 000	490 683 000
$I^2_{adjusted}$ (%)	89.4149	95.3917	79.7798
$H_0 :$	$\beta_0 = 0$	$\beta_0 = 0$	$\beta_0 = 0$
$H_1 :$	$\beta_0 \neq 0$	$\beta_0 \neq 0$	$\beta_0 \neq 0$
$\hat{\beta}_0$	3 107 200 000	2 324 830 000	21.8924
Tests criterion t-test	12.8045	8.54986	286.287
P-value	$0.000000 < 0,05$	$0.000027 < 0,05$	$0,000000 < 0,05$
Test conclusion	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .
$H_0 :$	$\beta_1 = 0$	$\beta_1 = 0$	$\beta_1 = 0$
$H_1 :$	$\beta_1 \neq 0$	$\beta_1 \neq 0$	$\beta_1 \neq 0$
$\hat{\beta}_1$	330 781 000	691 872 000	0.0717134
Tests criterion t-test	9.24514	6.64332	6.36046
P-value	$0,000007 < 0,05$	$0,000162 < 0,05$	$0,000131 < 0,05$
Test conclusion	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .
$H_0 :$		$\beta_2 = 0$	
$H_1 :$		$\beta_2 \neq 0$	
$\hat{\beta}_2$		30 090 900	
Tests criterion t-test		-3.55984	
P-value		$0.007402 < 0,05$	
Test conclusion		Disapprove H_0 , prove H_1 .	
$H_0 :$	The linear trend is not acceptable model.	The quadratic trend is not acceptable model.	The exponential trend is not acceptable model.
$H_1 :$	Non H_0	Non H_0	Non H_0
F-test	85.47	104.5	40.46
P-value	$0.0000 < 0.05$	$0.0000 < 0.05$	$0.0001 < 0.05$
Test conclusion	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .	Disapprove H_0 , prove H_1 .

Source: Own elaboration

The roots mean squared error “R.M.S.E.” (7) is calculated as:

$$R.M.S.E. = \sqrt{\frac{1}{n} \sum (y_i - T_i)^2} \quad (7)$$

The adjusted index of determination (8) is defined by:

$$I_{adjusted}^2 = 1 - \frac{(n-1) \left[\sum (y_i - Y_i)^2 \right]}{(n-p) \left[\sum (Y_i - \bar{y})^2 + \sum (y_i - Y_i)^2 \right]} = 1 - \frac{(n-1)S_R}{(n-p)(S_T + S_R)} = 1 - \frac{(n-1)S_R}{(n-p)S_y} \quad (8)$$

where S_T is theoretical sum of squares and S_R is residual sum of squares. Test criterion by the prove of hypothesis H_0 has distribution F by $(p-1)$ and $(n-p)$ degrees of freedom.

After estimating the parameters of individual trends it is necessary, by interpolation criteria and testing hypotheses, to choose the appropriate model. The character of actual trend values y_t is also examined, these differences are called residues. Accuracy of the estimate is measured by the average residual characteristics [4] of $M.A.E.$, $M.A.P.E.$, $M.E.$, $M.P.E.$.

The mean absolute error “ $M.A.E.$ ” (9) is calculated as:

$$M.A.E. = \frac{\sum |y_t - \hat{T}_t|}{n} \quad (9)$$

The mean absolute percentage error “ $M.A.P.E.$ ” (10) is calculated as:

$$M.A.P.E. = \sum \left(\frac{|y_t - \hat{T}_t|}{y_t} \right) \cdot \frac{100}{n} \quad (10)$$

The mean error “ $M.E.$ ” (11) is calculated as:

$$M.E. = \frac{\sum (y_t - \hat{T}_t)}{n} \quad (11)$$

The mean percentage error “ $M.P.E.$ ” (12) is calculated as:

$$M.P.E. = \sum \left(\frac{y_t - \hat{T}_t}{y_t} \right) \cdot \frac{100}{n} \quad (12)$$

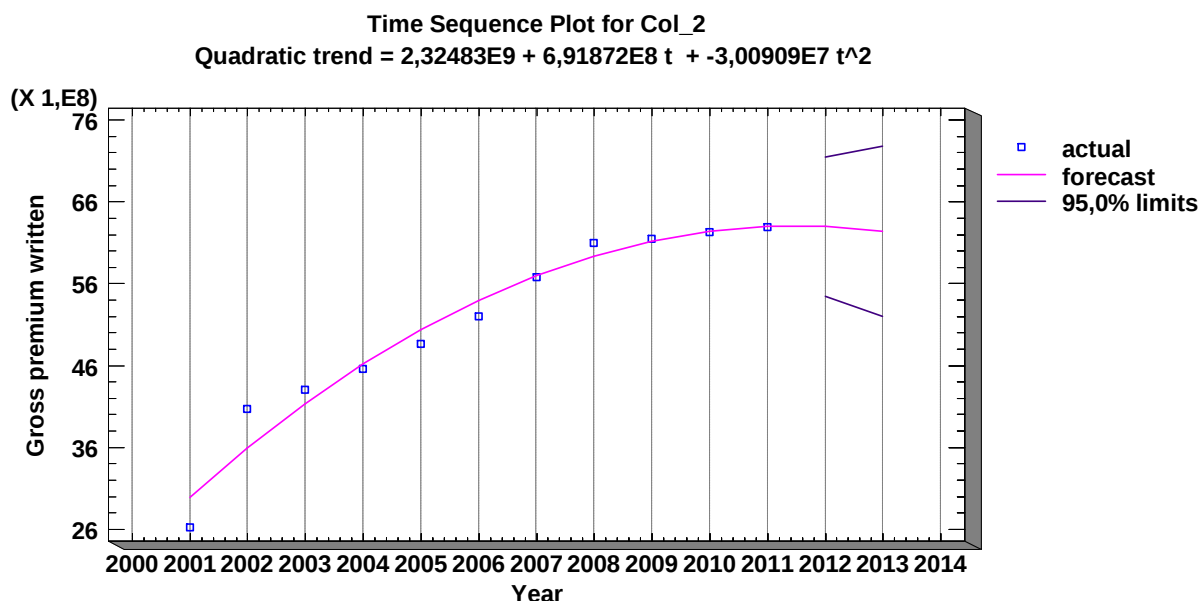
The results of average characteristics of the residues of $M.A.E.$, $M.A.P.E.$, $M.E.$, and $M.P.E.$ are presented in Tab. 5.

Tab. 5: Average Characteristics of the Residues of $M.A.E.$, $M.A.P.E.$, $M.E.$, $M.P.E.$

Residues	Linear trend	Quadratic trend	Exponential trend
M.A.E.	267 664 000	151 306 000	379 312 000
M.A.P.E.	6.48551	3.81792	8.6224
M.E.	-0.000000520186	-0.000000520186	0.000000136702
M.P.E.	-1.09686	-0.414535	-0.606808

Source: Own elaboration

The quadratic trend is available according to the results of $RMSE$, $M.A.E.$, $M.A.P.E.$, $M.E.$, $M.P.E.$, adjusted index of determination, t -tests, P -values and total F -test [2], [3], [4]. For the forecast of this model, see Fig. 4.



Source: Own elaboration

Fig. 4: Time Series Equalization by Quadratic Trend and Forecast of Development by Next Two Years

According to the results of statistic program Statgraphics Centurion, the predicted values of gross premium written of statutory insurance with 95% confidence level will be in the interval of 5 446 170 000 CZK – 7 142 250 000 CZK (with point prediction of 6 294 210 000 CZK) in the year 2012 and in the interval of 6 233 810 000 CZK – 7 272 450 000 CZK (with point prediction of 6 233 810 000 CZK) in the year 2013.

Conclusion

The development of gross premium written of statutory insurance can be modelled with quadratic trend. The development point prediction with 95% confidence level for next two years is 6 294 210 000 CZK for year 2012 and 6 233 810 000 CZK for year 2013.

This analysis doesn't include economic factors (for example: inflation, economic progress, economic recession, economic shocks).

Acknowledgements

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ANALÝZA ČASOVÝCH ŘAD A PREDIKCE VÝVOJE PŘEDEPSANÉHO HRUBÉHO POJISTNÉHO POJIŠTĚNÍ ODPOVĚDNOSTI ZAMĚSTNAVATELE ZA PRACOVNÍ ÚRAZY A NEMOCI Z POVOLÁNÍ V RÁMCI ČESKÉHO POJISTNÉHO TRHU

Tato práce se zabývá analýzou časových řad a predikcí vývoje hrubého předepsaného pojistného u pojištění odpovědnosti zaměstnavatele za pracovní úrazy a nemoci z povolání v rámci českého pojistného trhu pro roky 2012 a 2013. Časové řady jsou definovány jako sekvence datových bodů, měřených obvykle po sobě jdoucím čase, které jsou umístěny v časových intervalech. Daty v této modelaci jsou hrubé předepsané pojistné u pojištění odpovědnosti zaměstnavatele za pracovní úrazy a nemoci z povolání členů České asociace pojišťoven a také data České národní banky za období let 2001–2011. Tato analýza nezahrnuje ekonomické faktory (například: inflaci, hospodářský pokrok, hospodářskou recesi, ekonomické šoky).

ZEITREIHENANALYSE UND PROGNOSE DER BRUTTOPRÄMIEN DER UNFALLVERSICHERUNG FÜR ARBEITSUNFÄLLE UND BERUFSSKRANKHEITEN AUF DEM TSCHECHISCHEN VERSICHERUNGSMARKT

Diese Arbeit beschäftigt sich mit der Zeitreihenanalyse und der Prognose von Bruttoprämien Unfallversicherung für Arbeitsunfälle und Berufskrankheiten auf dem tschechischen Versicherungsmarkt für die Jahre 2012 und 2013. Zeitreihen werden als Folge von üblicherweise in zeitlicher Abfolge gemessenen Datenpunkten definiert, die in zeitlichen Intervallen angeordnet sind. Die Daten in dieser Modellierung bestehen in den Bruttoprämien der Unfallversicherung für Arbeitsunfälle und Berufskrankheiten der Mitglieder des Tschechischen Versicherungsverbands und auch die Daten der Tschechischen Nationalbank für den Zeitraum 2001–2011. Diese Analyse schließt wirtschaftliche Faktoren wie Inflation, wirtschaftlichen Fortschritt, wirtschaftliche Rezession ökonomische Schocks usw. nicht mit ein.

ANALIZA SZEREGÓW CZASOWYCH I PROGNOZOWANIE SKŁADKI PRZYPISANEJ BRUTTO ODPOWIEDZIALNOŚCI PRACODAWCÓW UBEZPIECZEŃ Z TYTUŁU WYPADKÓW PRZY PRACY I CHORÓB ZAWODOWYCH W CZESKIM RYNKU UBEZPIECZEŃ

Niniejsze opracowanie dotyczy analizy szeregów czasowych i prognozowania składek przypisanych brutto w odpowiedzialności pracodawców ubezpieczeń z tytułu wypadków przy pracy i chorób zawodowych na czeskim rynku ubezpieczeń w latach 2012 i 2013. Szeregi czasowe określone są jako ciąg punktów danych, mierzonych zazwyczaj kolejno w pewnych odstępach czasu. Dane w omawianym modelowaniu stanowią składki przypisane brutto odpowiedzialności pracodawców ubezpieczeń z tytułu wypadków przy pracy i chorób zawodowych Czeskie Zrzeszenie Ubezpieczycieli i dane z Czeskiego Banku Narodowego w okresie 2001–2011. Analiza ta nie obejmuje czynników ekonomicznych (takich jak: inflacja, postęp gospodarczy, recesja gospodarcza, wstrząsy gospodarcze).

MOTORICKÁ OSLABENÍ U DĚTÍ S ODKLADEM POVINNÉ ŠKOLNÍ DOCHÁZKY

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Abstrakt

Příspěvek seznamuje s výsledky výzkumné studie, která mapuje úroveň pohybové koordinace u dětí s odkladem povinné školní docházky a porovnává ji s úrovní koordinace u dětí z kontrolní skupiny, u nichž nebyl realizován odklad povinné školní docházky. Zabývá se posuzováním úrovně pohybové koordinace ze tří různých hledisek. Jedná se o hledisko koordinačních schopností, hledisko jemné a hrubé motoriky v podrobnějším členění a hledisko cíle činnosti. Cílem výzkumného šetření bylo zjistit strukturu motorického oslabení u dětí s odkladem povinné školní docházky a upozornit na význam pohybu nejen v předškolním období.

Úvod

Často diskutovaným tématem jsou počty dětí nastupujících do základních škol o rok později. Odborníci sledují jak jejich počet, tak příčiny odkladu povinné školní docházky. Jedním z důvodů, proč je rodičům dítěte doporučeno odložit o jeden rok povinnou školní docházku, může být i oslabení v motorice. Náš výzkum se zabývá zjišťováním struktury oslabení u dětí s odkladem povinné školní docházky v porovnání s jejich vrstevníky. Jak potvrzuje i Kucharská a Švancarová [10, s. 10], ještě ani po ročním odkladu nejsou vývojové odchylky dětí sedmiletých plně kompenzovány a jejich výkon v Testu rizika poruch čtení a psaní pro rané školáky se podobá výkonu dětí šestiletých. Z výsledků vyplývá, že vliv zrání CNS ani běžné edukační působení nemohou ve všech případech zajistit spontánní nápravu nedostatků. Je tedy v tomto případě třeba včasné depistáže dětí s motorickým oslabením s následnou cílenou podporou jejich motorického vývoje.

1 Význam pohybu v životě člověka

Lidský pohyb nejsou jen tělesná cvičení. Naopak, pohybových činností jiného druhu je velké množství, jsou nutnou a ne pouze chtěnou součástí našeho života. Hodaň [1, s. 162-163] konstatuje, že život člověka se rozpadá do tří základních oblastí:

- Činnosti individuálně i společensky životně nezbytně nutné, které jsou spojeny se zabezpečením základní existence individua i společnosti.
- Úroveň realizace těchto rolí je také podmíněna úrovní všestranné záměrné regenerace. Pod pojmem regenerace si lze představit různé činnosti i nečinnosti. Je proto vhodné ji rozdělit na regeneraci biologicky nutnou (pasivní odpočinek, spánek...), která je společná všem živým organismům, a regeneraci individuálně i společensky žádoucí (aktivní odpočinek), která je vlastní člověku. Regeneraci je tedy obnovována „základní životní“ i „pracovní síla“, vyčerpávající se v oblasti první.
- Třetí oblastí individuálně-sociálního života je oblast prožitkovosti. Má specifický lidský charakter a souvisí s tvorbou kultury od jejího počátku. Obsahem této oblasti jsou

činnosti, které jsou mimo základní nezbytnost, které obohacují život a základní „žítí“ povyšují na „prožívání“.

Tělesná cvičení mají „fyzický“ charakter, zdá se, že působí bezprostředně a pouze na „tělo“ člověka. Ve vnějšně vnímaném těle také zanechávají svoje zřejmé stopy – fyzická zdatnost, fyzický vzhled, struktura svalstva, konkrétní pohybové dovednosti, síla, rychlost, obratnost, vytrvalost a adaptovatelnost na různé pohybové podněty, na fyzickou zátěž atd. Jde tedy ve všech těchto uváděných příkladech o kvantifikovatelné znaky, které charakterizují tělo jako nástroj. Fyzická dimenze tělesných cvičení je tedy prvotní, není však jediná a v žádném případě ne cílová.

Tělocvičná aktivita zasahuje významně i do oblasti psychické, má tedy svoji dimenzi psychickou. Málo se však využívá speciálních tělesných cvičení k rozvoji konkrétních psychických vlastností (pozornost, soustředěnost, rychlost reakce...). V každém případě se ale „fyzické“ s „psychickým“ dostává do určitých proporcí, psychická dimenze je, i když ne zcela, vnímána. Za výsledek tělocvičné aktivity je potom v této dimenzi považována psychická zdatnost a vytrvalost, odolnost proti stresu, houževnatost, vůle, ctížádost, schopnost koncentrace, odvaha, atd. V tomto pojetí jsou tělesná cvičení úspěšně využívána i v psychoterapii. Díky rozvojovým a regeneračním účinkům obecně i v jednotlivých systémech, včetně CNS, zasahuje tělocvičná aktivita velmi význačně i do oblasti rozumové (ne ve smyslu zvyšování obecné inteligence, ale ve smyslu schopnosti „učit se“).

Převážná většina tělesných cvičení je realizována ve skupinách, které jsou více či méně sevřené, kooperující, a tady můžeme najít dimenzi sociální. V procesu realizace tělocvičné aktivity dochází k vytváření specifického mikrosvěta, mikroklimatu, které je typické náročnými podmínkami a v případě skupinové aktivity i náročnými vztahy, z dané činnosti vyplývajících. Díky náročnosti podmínek i vztahů dochází k rozvoji kooperace, vzájemné tolerance, ohleduplnosti, zodpovědnosti, ale i konkurenceschopnosti, touhy zvítězit, ale i přijmout porážku. V individuální činnosti se výrazně uplatňuje zodpovědnost za sebe sama, nepřenesení zodpovědnosti na druhé, sebejistota. V obou případech potom jde i o schopnost akceptování náročných podmínek. Tělesných cvičení je v tomto smyslu také účelově využíváno v oblasti sociální terapie, resocializace apod.

Dochází tedy ke zřejmé návaznosti dimenze fyzická → dimenze psychická → dimenze sociální. Jestliže uznáme, že nejdůležitější, vnějšně hodnotitelný a společensky nejvýznamnější je sociální výstup člověka, tedy kvalita prezentace jeho sociálních rolí, potom je také nutno uznat, že nejvýznamnější dimenzí tělesných cvičení je dimenze sociální, jejíž kvalita je podmíněna kvalitou dimenze fyzické a psychické. Jedině v ní se může projevit společenský dopad tělesných cvičení. V takto pochopené posloupnosti lze vidět „smysl“ tělocvičné aktivity a zprostředkovaně tedy i celé tělesné kultury. [1, s. 160-162]

2 Tělesný a motorický vývoj

Předškolní věk je charakteristický **vysokou potřebou pohybu** a prudkým rozvojem motoriky, kdy děti získávají četné pohybové zkušenosti. Vývoj hrubé motoriky je ukončen zhruba ve čtyřech letech. [2, s. 12] Jak uvádí Langmeier [3, s. 88], tříleté dítě zakončilo důležitou etapu, v níž se naučilo chodit a pohybovat se už plně po způsobu dospělých. Chodí i běhá po rovině stejně dobře jako po nerovném terénu, padá jen velmi zřídka, chodí do schodů i ze schodů bez držení. Nyní přichází období, ve kterém jsou změny méně nápadné, neboť se již netýkají tolik „kritických“ lidských dovedností. Přesto jsou to změny velmi významné, neboť silně ovlivňují *místo*, které dítě zaujme ve *společenství vrstevníků* svou pohybovou obratností ve hrách, a jsou podstatné i pro další vývoj soběstačnosti dítěte. V oblasti motorického vývoje předškolního dítěte dochází podle Šulové [9, s. 67] ke zdokonalování a k růstu **kvality**

pohybové koordinace. Pohyby jsou přesnější, účelnější a plynulejší. Dítě je hbitější, má elegantnější pohyby, dokáže v rámci společných činností s rodiči, jinými dospělými či vrstevníky velmi dobře pozorovat a napodobovat sportovní aktivity. Je to častý počátek rekreačních sportů, jako je lyžování, bruslení, jízda na kole. Hry tohoto období jsou velmi často spojeny s pohybem – sbíhání a vybíhání do schodů, hopsání, skákání, lezení po žebříku, seskakování z výšky, stoj na jedné noze, házení.

Z počáteční fáze nekoordinovaných a nerytmických pohybů dochází kolem pátého roku k integraci dílčích pohybů a ke zvýšení jejich účinnosti. V tomto věku je vazivová pevnost větší než tolerance chrupavek na zatížení, a proto je nutné vnímat bolestivost jako významný signál. Dětská kostní tkáň neobsahuje takové množství nerostných látek jako tkáň dospělých a je tedy náchylnější ke zlomeninám. Jednotlivé tělesné segmenty se nevyvíjejí (nerostou) rovnoměrně a poměr jejich velikosti vůči dospělým je různý. [2, s. 12] Větší zručnost čtyřletého dítěte a ještě lépe pětiletého se projeví v rychle **narůstající soběstačnosti** – samostatně jí, samo se svléká a obléká, i když ještě potřebuje menší pomoc nebo alespoň vhodnou přípravu částí oděvu, obouvá se a zkouší si zavazovat tkaničku. Také při toaletě potřebuje jen malou pomoc. Umí si dobře umýt ruce a může se pod dohledem samo koupat. [3, s. 88]

V předškolním věku podle Říčana [8, s. 120-121] mají už velký význam **tělesné individuální rozdíly**. Větší a silnější dítě totiž lépe obstojí v dětském kolektivu, má tam lepší pozici, snadněji se dostává do vedoucí role. Hůře tělesně vyvinuté dítě bývá někdy plaché a obtížnější se druží – je dobře mu v tom nenápadně pomoci. Nejde však jen o tělesnou výšku, nýbrž také o tělesnou přitažlivost, krásu. Pohyblivost se v tomto věku zlepšuje jen zvolna a ne příliš nápadně. Spíš než nové výkony pozorujeme větší rychlost, pohotovost a obratnost pohybů, které už dítě dovedlo provádět dříve, a také jejich větší eleganci. I zde mají individuální rozdíly pro život dětí značný význam: obratnější a rychlejší dítě mívá lepší pozici v kolektivu.

3 Výsledky výzkumu

Testováním koordinačních schopností jsme se zabývali v rámci výzkumu u předškolních dětí navštěvujících mateřskou školu. Využili jsme motorický screeningový test určený pro děti ve věku 5 až 7 let. V rámci výzkumu byly analyzovány výkony respondentů s odkladem povinné školní docházky ($N_{\text{OPŠD}} = 33$). Jednalo se o 33 dětí ve věku 6,5 až 7 let. Výsledky této skupiny byly porovnávány s kontrolní skupinou ($N_K = 52$) ve stejném věkovém rozpětí. Cílem výzkumu bylo zodpovězení otázky, zda a do jaké míry je úroveň motorického výkonu u dětí s odkladem povinné školní docházky snížena.

Na motorické výkony dětí jsme nahlíželi ze tří hledisek. Prvním hlediskem bylo **testování motorických schopností** dětí, jak je vymezuje Karel Měkota [6, s. 57]. Pohybové schopnosti rozděluje na kondiční a koordinační. Použitý screeningový test se zaměřuje zejména na koordinační schopnosti, které jsou podmíněny především procesy *řízení a regulace pohybové činnosti*. Vnitřně se koordinační procesy vyznačují různými operacemi příjmu, zpracování a uchování informací. Jedná se o percepční, kognitivní a paměťové operace. Jde o kvalitu těchto procesů, která je určována tím, jak rychle, přesně, pružně, diferencovaně a ekonomicky tyto procesy probíhají. Opakovaným překonáváním koordinačně podobných nároků se tyto procesy upevňují. Testování koordinačních motorických schopností je značně obtížné z následujících důvodů. Jelikož je koordinační schopnost bezprostředně neměřitelná, předpokládáme, že manifestní vlastnost, kterou test postihuje, je spjata se schopností, takže její změny jsou asociovány se změnami schopnosti. Vysoká úroveň schopnosti se projeví příznivým testovým výsledkem a naopak. Testový výsledek se nevztahuje přímo ke schopnosti, ale k pohybovému projevu, z něhož na schopnost usuzujeme. Některé motorické schopnosti jsou manifestním projevům mnohem vzdálenější než jiné a korelační vazby mezi

indikátory a schopnostmi nejsou vždy stejně silné. To přináší při testování koordinačních schopností nemalé obtíže. [6, s. 101-108]

V průměru dosahují děti s odkladem povinné školní docházky nižších výkonů než děti z kontrolní skupiny. Zajímalo nás však, zda rozdíly ve výkonnosti a potažmo i v jednotlivých koordinačních schopnostech jsou statisticky významné. Statistické parametry a výsledky ověřování hypotéz jsou zřejmé z tabulek č. 1 a 2.

Tab. 1: *Statistické parametry motoriky v členění dle koordinačních schopností*

Statistické parametry	Reakční sch.		Rovnováhová sch.		Rytmická sch.	
	$N_{OPŠD} = 33$	$N_K = 52$	$N_{OPŠD} = 33$	$N_K = 52$	$N_{OPŠD} = 33$	$N_K = 52$
střední hodnota	2,54545	2,90385	2,87879	3,65385	1,15152	1,34615
rozptyl	1,50568	1,069	1,04735	0,3092	0,63258	0,54449
t stat	-1,44763		-3,9926 ***		-1,14986	
kritická hodnota	1,98896		3,5258		1,98896	

Pozn. *** statisticky významný rozdíl na hladině významnosti $\alpha = 0,001$

Zdroj: vlastní výzkum

Tab. 2: *Statistické parametry motoriky v členění dle koordinačních schopností*

Statistické parametry	Orientační sch.		Diferenciační sch.	
	$N_{OPŠD} = 33$	$N_K = 52$	$N_{OPŠD} = 33$	$N_K = 52$
střední hodnota	4,60606	5,57692	2,87878	2,96154
rozptyl	1,43371	0,60181	1,04735	1,13575
t stat	-4,13905 ***		-0,3575	
kritická hodnota	3,50044		1,99444	

Pozn. *** statisticky významný rozdíl na hladině významnosti $\alpha = 0,001$

Zdroj: vlastní výzkum

U reakční, rytmičké a diferenční schopnosti byla vypočítaná t hodnota menší než kritická hodnota. Z tohoto důvodu můžeme tvrdit, že u reakční, rytmičké a diferenční schopnosti nejsou mezi dětmi s odkladem povinné školní docházky ($N_{OPŠD}$) a dětmi v kontrolní skupině (N_K) statisticky významné rozdíly. Statisticky významný rozdíl byl nalezen u *rovnováhové a orientační schopnosti* na hladině významnosti $\alpha = 0,001$. Zde můžeme s pravděpodobností 99,9 % tvrdit, že *existuje statisticky významný rozdíl* mezi úrovní těchto schopností mezi dětmi s odkladem povinné školní docházky ($N_{OPŠD}$) a dětmi v kontrolní skupině (N_K).

Dále jsme se pokusili o náhled na motoriku z **hlediska jemné a hrubé motoriky**. Testové úlohy jsme rozdělili dle jejich charakteru na několik skupin. Do první skupiny byly zařazeny úlohy z hrubé motoriky. Druhá skupina obsahovala úlohy na prostorovou orientaci, kdy byly zařazeny úlohy z hrubé i jemné motoriky, které se vztahovaly k orientaci v makroprostoru (místnosti) i mikroprostoru (na stránce). Do skupiny jemné motoriky byly zařazeny pouze úlohy, které vyžadovaly jemnou práci rukou či prstů. Pro výzkum jsme zvolili užší pojetí jemné motoriky, než bývá zvykem, a některé její dílčí podoblasti zařadili jako samostatné skupiny (např. mimiku, grafomotoriku). Další skupinou byly úlohy, které ověřovaly úroveň vnímání tělesného schématu. Tato oblast, stejně jako prostorová orientace, má k motorickým schopnostem velmi blízko. Grafomotorické úlohy tvořily samostatnou skupinu, stejně tak i mimika.

Tab. 3: Statistické parametry motoriky v členění dle jemné a hrubé motoriky

Statistické parametry	Jemná motorika		Grafomotorika		Hrubá motorika	
	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52
střední hodnota	3,36364	3,76923	3,24242	3,5	5,27273	6,11538
rozptyl	0,73864	0,25943	2,50189	1,66667	2,89205	1,86878
t stat	-2,45154 *		-0,82068		-2,51669 *	
kritická hodnota	2,0129		1,98896		1,98896	

Pozn. * statisticky významný rozdíl na hladině významnosti $\alpha = 0,05$

Zdroj: vlastní výzkum

Tab. 4: Statistické parametry motoriky v členění dle jemné a hrubé motoriky

Statistické parametry	Prostorová orientace		Vnímání těles. schém.		Mimika	
	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52
střední hodnota	4,84848	5,40385	1,18182	1,78846	1,72727	1,88462
rozptyl	1,13258	0,71606	0,59091	0,28771	0,39205	0,14329
t stat	-2,66509**		-3,96244***		-1,30059	
kritická hodnota	2,63637		3,48769		2,01174	

Pozn.

** statisticky významný rozdíl na hladině významnosti $\alpha = 0,01$

*** statisticky významný rozdíl na hladině významnosti $\alpha = 0,001$

Zdroj: vlastní výzkum

Z tabulek č. 3 a 4 vyplývá, že sice lze mezi výsledky dětí s odkladem povinné školní docházky (N_{OPŠD}) a kontrolní skupiny (N_K) spatřit rozdíly ve prospěch kontrolní skupiny, avšak statistický významný rozdíl ve výkonech v grafomotorice a mimice nebyl potvrzen. Toto tvrzení vyplývá z porovnání vypočítané hodnoty *t*, kterou jsme srovnali s kritickou hodnotou pro hladinu významnosti $\alpha=0,05$. U ostatních oblastí však již lze usuzovat na významné rozdíly mezi oběma skupinami respondentů. Oblast *jemné motoriky a hrubé motoriky* vykazuje *statisticky významný rozdíl* na hladině významnosti $\alpha = 0,05$. U *prostorové orientace a u vnímání tělesného schématu* můžeme s 99 % pravděpodobností u prostorové orientace a 99,9 % pravděpodobností u vnímání tělesného schématu hovořit o statisticky významném rozdílu mezi skupinou dětí s odkladem povinné školní docházky (N_{OPŠD}) a kontrolní skupinou (N_K).

Z hlediska cíle činnosti jsme testové úlohy a rozřadili na **lokomoční, nelokomoční a manipulační dovednosti**. U kategorie lokomočních dovedností byly zařazeny úlohy ze základních pohybových schopností, tj. chůze, běh, skok. Velkou převahu má zastoupení manipulačních dovedností, které v životě člověka tvoří také největší podíl v pohybových dovednostech.

Tab. 5: Statistické parametry motoriky v členění dle cíle činnosti

Statistické parametry	Lokomoční dovednosti		Nelokomoční dovednosti		Manipulační dovednosti	
	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52	N _{OPŠD} = 33	N _K = 52
střední hodnota	6,90385	5,84848	3,67308	2,90909	11,88462	10,87879
rozptyl	1,18665	2,75758	0,69495	1,14773	4,02564	7,35985
t stat	3,54196 ***		3,48188 ***		1,96101	
kritická hodnota	3,41164		3,47292		1,98896	

Pozn. *** statisticky významný rozdíl na hladině významnosti $\alpha = 0,001$

Zdroj: vlastní výzkum

U *lokomočních a nelokomočních dovedností* byl zjištěn statisticky významný rozdíl na hladině významnosti $\alpha = 0,001$, jak je patrné z tabulky č. 5. Lze s 99,9 % pravděpodobností

konstatovat, že v lokomočních a nelokomočních dovednostech vykazují děti s odkladem povinné školní docházky ($N_{OPŠD}$) statisticky horší výsledky než děti z kontrolní skupiny (N_K). U manipulačních dovedností se statisticky významný rozdíl nepotvrdil.

Závěr

Z výše uvedených výsledků lze konstatovat, že bez ohledu na příčinu odkladu povinné školní docházky vykazují děti s odkladem povinné školní docházky v některých pohybových oblastech, schopnostech či dovednostech statisticky významné rozdíly oproti svým vrstevníkům, kteří nastoupili do základní školy v řádném termínu. Přitom odklad povinné školní docházky může být dítěti udělen z nejrůznějších příčin. Může se jednat o řečové obtíže (např. přetrvávající fyziologická dyslálie), o sociokulturní znevýhodnění, dyspraxii, syndrom ADD/ADHD, nedostatky v koncentraci pozornosti, ve vnímání, obtíže plynoucí z nevyhraněné nebo zkřížené laterality, sociální nezralost dítěte, častá nemocnost nebo malá fyzická vyspělost apod. Výše uvedené nás opravňuje k apelování na zvýšení pozornosti při posuzování školní zralosti a připravenosti dítěte na motorické projevy dítěte. Často se pedagog zaměřuje pouze na oblast grafomotorického projevu dítěte a mohou mu unikat další souvislosti.

Jako příklad lze uvést zjištění Christiny Macintire [4, p. 6], která upozorňuje, že některé děti mají problémy s pohyby, kde je třeba zapojit velké svalové skupiny. Zatímco z hlediska hrubé motoriky jsou nemotorní, řízení pohybů jemné motoriky může být docela dobré. Jiné děti mají deficit jen tam, kde je vyžadována jemná motorika. Ne všechny děti mají problémy s artikulací. Pečlivé pozorování a případně i nahrávání dětí v různých situacích je důležité a pomůže detailně analyzovat situaci. Z tohoto důvodu doporučujeme sledování jednotlivých aspektů motorických projevů dětí a nikoli pouze motoriky jako celku.

Včasná diagnostika umožňuje i včasnou a úspěšnou intervenci. Přitom diagnostický úkol pro učitelky mateřských škol vymezuje i Rámcový vzdělávací program pro předškolní vzdělávání. [7, s. 6] Problematika dětí, u kterých jsou motorické schopnosti sníženy, unikají prozatím většímu zájmu odborné veřejnosti. Uvědomme si, že motorické schopnosti dětí velmi úzce souvisí s intelektovým vývojem a vývojem řeči. Uplatňují se při veškerých pohybových, praktických a manipulativních činnostech ve škole i v běžném životě. Je nezbytné ještě před nástupem povinné školní docházky **odhalit snížené motorické schopnosti** u dítěte, zjistit rozsah oslabení a včasnou speciálně pedagogickou podporou **předcházet školní neúspěšnosti** i sociálnímu vyčleňování dítěte.

Poděkování

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MOTOR WEAKNESSES IN CHILDREN WITH POSTPONED COMPULSORY SCHOOL ATTENDANCE

The paper presents outcomes of a survey that was focused on the motion coordination in children with postponed compulsory school attendance. Their level of motion coordination was put in comparison with a control group consisting of children with no postponement. There are three different viewpoints on the motion coordination expounded on in the paper. These are the coordination abilities viewpoint, fine and gross motor skills in detailed classification and lastly, the activity aim viewpoint. The purpose of the survey was to discover a structure of motor weakness in children with postponed compulsory school attendance and to point out the significance of motion, not only in the pre-school age.

MOTORISCHE ERSCHLAFUNG BEI SCHULPFLICHTIGEN KINDERN

Der Beitrag stellt die Ergebnisse einer Untersuchung vor, welche das Niveau der Bewegungskoordination bei Kindern mit Aufschub der gesetzlichen Schulpflicht aufzeigt und sie mit dem Niveau der Kinder der Kontrollgruppe, bei denen kein Aufschub der Schulpflicht vorliegt, vergleicht. Der Beitrag befasst sich mit der Beurteilung des Grades der motorischen Koordination aus drei Aspekten. Es handelt sich um den Gesichtspunkt der koordinatorischen Fähigkeiten, den Gesichtspunkt der Fein- und Grobmotorik in ausführlicher Gliederung und der Bereich des Ziels der Tätigkeit. Die Zielstellung der Untersuchung bestand in der Feststellung der Struktur der motorischen Erschlaffung bei den Kindern mit Aufschub der Schulpflicht. Auf Grund dessen macht sie auf die Bedeutung der Bewegung nicht nur im Zeitraum vor dem Schulbesuch aufmerksam.

OSŁABIENE ZDOLNOŚCI MOTORYCZNYCH DZIECI, KTÓRYM ODRO CZONO ROZPOCZĘCIE OBOWIĄZKU SZKOLNEGO

W artykule zaprezentowano wyniki badań pokazujących poziom koordynacji ruchowej dzieci, którym odroczone rozpoczęcie obowiązków szkolnych, porównując go z poziomem koordynacji ruchowej dzieci z grupy kontrolnej, którym nie odroczone rozpoczęcie obowiązków szkolnych. Poziom koordynacji ruchowej analizowany jest z trzech różnych punktów widzenia. Po pierwsze z punktu widzenia umiejętności koordynacyjnych, po drugie z punktu widzenia małej i dużej motoryki w podziale uszczegółowionym, po trzecie z punktu widzenia celu wykonywania czynności. Celem badań było określenie struktury osłabienia zdolności motorycznych dzieci, którym odroczone rozpoczęcie obowiązków szkolnych oraz podkreślenie znaczenia ruchu nie tylko w okresie przedszkolnym.

ICT GRAMOTNOST STUDENTŮ SOCIÁLNÍ PRÁCE (TIGR PRO BUDOUCÍ SOCIÁLNÍ PRACOVNÍKY)

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Abstrakt

Funkční ICT znalosti a dovednosti jsou nezbytnou součástí kompetencí vysokoškolských studentů a kvalifikace moderního sociálního pracovníka. Úroveň ICT gramotnosti byla zjišťována pomocí on-line testu informační gramotnosti TIGR u 48 studentů prvního ročníku kombinovaného studijního programu sociální práce. Ukázalo se, že průměrné výsledky testovaných vysokoškolských studentů kombinovaného studia jsou srovnatelné s výsledky studentů končících první půli studia na víceletých gymnáziích. Vyhovují sice požadavkům na absolventa základní školy, bez dalšího vzdělávání v oblasti ICT však nepostačují pro efektivní využívání nových technologií v praktické sociální práci. Dále bylo zjištěno, že celá jedna třetina studentů sociální práce nemá v oblasti ICT základní praktické znalosti a dovednosti potřebné pro ICT gramotné plnění vysokoškolských studijních povinností.

Úvod

Informační a komunikační technologie (dále jen ICT) jsou nedílnou součástí moderní, technologicky vyspělé *informační společnosti*. Sociální komunikace se zčásti přesouvá do prostředí sociálních sítí, pro zpracování kancelářských úloh se stále více a více využívají „mráčkové“ aplikace (tzv. *cloud computing*). Rychle se vyvíjejí hardwarové prostředky – nástup dotykových tabletů, chytrých mobilních telefonů a čteček digitálních knih je nezvratitelný. ICT mohou výrazně napomoci při odstraňování překážek, které brání občanům ve vzájemné komunikaci, resp. v komunikaci s úřady. Příkladem mohou být osoby se zdravotním postižením, kterým ICT pomáhají zapojit se plně a účinně do společnosti. Vzniká však akutní potřeba každého člověka naučit se ovládat ICT tak, aby je využíval smysluplně a efektivně a aby ICT pro něj byly více přínosem než překážkou.

Hledáme způsoby, jak definovat v oblasti ICT *funkční gramotnost* a jak zabránit *digitálnímu znevýhodnění* různých sociálních skupin – střední a starší generace, osob sociálně a zdravotně znevýhodněných aj. Současně zjišťujeme, že děti se rády a úspěšně učí hrou na počítačích i bez školy a učitelů a že v mnohých oblastech jim umíme poradit stále méně a méně. Zjišťujeme, že neformální učení se v oblasti ICT přenáší i do jiných věkových skupin obyvatel. Úroveň ICT znalostí a dovedností některých lidí – osoby se zdravotním postižením či znevýhodněním nevyjímaje, se průběžně zlepšuje a tito lidé začínají očekávat relevantní úroveň ICT znalostí a dovedností přinejmenším od orgánů státní správy. Sociální pracovníci,

kterí zastávají nejrozličnější pozice ve státní administrativě i nevládních organizacích, nejsou a nemohou být výjimkou.

Na Fakultě přírodovědně-humanitní a pedagogické Technické univerzity v Liberci (dále jen FP TUL) byl realizován výzkum ICT znalostí a dovedností budoucích sociálních pracovníků, kteří zde studují kombinovaný bakalářský studijní program *sociální práce*. Tito budoucí profesionálové by měli být schopni používat ICT na přinejmenším stejné úrovni jako osoby, kterým své služby budou poskytovat. Současně by měli znát a dodržovat podmínky etického využívání ICT v sociální práci tak, aby při komunikaci a poskytování podpory klientům mohli benefit ICT účelně, bezpečně a smysluplně využívat.

ICT znalosti a dovednosti studentů kombinovaného studijního programu *sociální práce* byly zjišťovány pomocí Testu Informační GRamotnosti (dále jen TIGR) firmy SCIO, který je primárně určen žákům základní školy na konci jejich vzdělávání ve vzdělávací oblasti informační a komunikační technologie, tj. v 8. nebo v 9. třídě ZŠ v závislosti na tom, kdy je podle konkrétního školního vzdělávacího programu jejich vzdělávání v ICT ukončeno. Výsledky testovaných osob byly porovnány s výsledky vzorku cca 400 žáků tercie a kvarty víceletých gymnázií (shodná věková skupina 14–15 let), které byly získány v roce 2010 při testování informační gramotnosti provedeném firmou SCIO (dále jen TIGR SCIO 2010) [18].

1 ICT gramotnost a ICT kompetence

Termín *ICT gramotnost* se často používá v různých kontextech, např. v souvislosti s hodnocením stávajících či očekávaných kompetencí uživatelů (např. žáků, učitelů, zaměstnanců) v oblasti ICT. V současné době však neexistuje jediná, všeobecně uznávaná a přijímaná definice ICT gramotnosti. Důsledkem je pak to, že si každý pod tímto pojmem představuje něco jiného, obvykle v návaznosti na vlastní znalosti a dovednosti ICT. V pojetí definice ICT je tedy zapotřebí sjednotit se tak, abychom jeho obsah chápali pokud možno jednotně, ne-li zcela stejně. Předejdeme tak nedorozuměním mezi odborníky v informačních vědách a jiných oborech, jaké vlastně má mít ICT gramotný jedinec znalosti a dovednosti. Použitelným východiskem může být *definice ICT gramotnosti*, která vznikla při dlouhých diskusích odborníků sdružených v pracovní skupině pro informatiku a informační a komunikační technologie při Výzkumném ústavu pedagogickém v Praze (tzv. ICT panel VUP, nyní Národní ústav pro vzdělávání – divize Výzkumný ústav pedagogický) a kterou uvádí Růžičková takto: *ICT gramotností, gramotností v oblasti informačních a komunikačních technologií, rozumíme soubor kompetencí, které jedinec potřebuje, aby byl schopen se rozhodnout jak, kdy a proč použít dostupné ICT a poté je účelně použít při řešení různých situací při učení i v životě v měnícím se světě. Takto pojatá ICT gramotnost zahrnuje:*

- *praktické dovednosti a vědomosti, které jedinci umožňují s porozuměním a účinně používat jednotlivé ICT,*
- *schopnost s využitím ICT shromáždit, analyzovat, kriticky vyhodnotit a použít informace,*
- *schopnost využít ICT v různých kontextech a k různým účelům na základě porozumění pojmům, konceptům, systémům a operacím z oblasti ICT,*
- *vědomosti, dovednosti, schopnosti, postoje a hodnoty, které vedou k zodpovědnému a bezpečnému využití ICT,*
- *schopnost přijímat nové podněty v oblasti ICT a kriticky je posuzovat, porozumět rychlému vývoji technologií, jejich významu pro osobní rozvoj a jejich vlivu na společnost* [17].

1.1 ICT kompetence v kombinovaném vysokoškolském studiu

Na úrovni vysoké školy se již očekává, že i studenti neinformatických kombinovaných studijních programů budou schopni využívat ICT při studiu v souladu s definicí ICT gramotnosti přiměřeně obsahové i formální náročnosti svého studia. Měli by bez významných obtíží zvládnout nejen elektronickou on-line i off-line komunikaci, využívání informačních zdrojů přístupných prostřednictvím Internetu, práci s informačním systémem studijní agendy, využití open-source kancelářských aplikací ke zpracování vlastních studijních materiálů převážně textového a grafického charakteru, prezentací, seminárních prací a textů i výzkumných dat své bakalářské, resp. magisterské diplomové práce, ale měli by být schopni také učit se pomocí e-learningu a při učení efektivně využívat např. sociální sítě. Tyto činnosti by měli zvládnout z ICT hlediska přiměřeným, přijatelným a komplexním způsobem, tj. např. při psaní textů dodržovat nejen pravidla gramatiky, typografie a standardy pro grafickou a stylistickou úpravu odborného textu, ale také pracovat s grafikou (tvořit, případně editovat ilustrující obrázky), s tabulkovými kalkulátory (např. při zpracování a prezentaci statistických dat), používat tzv. odstavcové, stránkové znakové a příp. jiné styly při formátování dokumentu a automaticky generovat seznamy (obsah, rejstřík, příp. seznam použité literatury, obrázků aj.).

1.2 ICT v sociální práci

Lidé žijící v informační společnosti různou měrou využívají informační a komunikační technologie. Ve vztahu k sociální práci lze vymezit dvě základní skupiny ICT aplikací.

1.2.1 ICT jako nástroj e-governmentu a prostředek pro ukládání a správu dat

Nové ICT technologie umožňují efektivně ukládat data a pracovat s informacemi – ukládat, vyhledávat, třídit a vyhodnocovat data potřebná pro výkon veřejné správy. V sociální oblasti se již nelze obejít bez databázových systémů, ve kterých jsou shromažďovány údaje o klientech včetně jejich osobních dat. Příkladem jsou sofistikované databáze *České správy sociálního zabezpečení*, ve kterých jsou evidováni např. příjemci dávek sociální podpory. Řízení a správa těchto systémů vyžaduje jak vysoce kvalifikované manažery (často odborníky jiných specializací, kteří někdy nerespektují základní zásady *sociální práce*), tak i odborné ICT pracovníky (informatiky – správce systémů zodpovědné za chod technologie) a kvalifikované koncové uživatele (např. pracovníky ČSSZ nebo odborů sociální péče, kteří získávají svou kvalifikaci právě vysokoškolským studiem *sociální práce*). Změny v těchto systémech jsou obtížné a organizačně náročné, o čemž se všichni mohli přesvědčit v souvislosti se změnou poskytovatele informačních služeb a databázových systémů pro MPSV na přelomu let 2011/2012. Chyby v těchto systémech mají přímý dopad na klienty, bezprostředně ovlivňují jejich sociální situaci a mohou být příčinou vzniku krizových sociálních situací klientů vyžadující zpětnou intervenci sociálních pracovníků. Mnohé technologie *e-governmentu* jsou složité a vysoce přesahují rámec kvalifikačních požadavků na sociální pracovníky. Je však nezbytné, aby sociální pracovníci byli v oblasti ICT připravováni takovým způsobem, aby při uživatelské obsluze těchto aplikací nedělali elementární chyby a nesnižovali tak funkcionalitu používaných aplikací.

1.2.2 ICT jako komunikační prostředek, nástroj a prostředek on-line i off-line poradenství

Velkou skupinu klientů sociálních pracovníků tvoří osoby se zdravotním znevýhodněním či postižením, kterým ICT mohou sloužit jako komunikační prostředek a/nebo efektivní kompenzační pomůcka jejich speciální potřeby. Běžný notebook je standardně konstruován jako multimediální zařízení – má mechanický vstup (klávesnice a myš nebo jiné polohovací

zařízení) a obrazový i zvukový vstup i výstup (kamera a mikrofon × displej a reproduktor). Lze jej upravit tak, že jedno vstupní nebo výstupní zařízení je nahrazeno jiným, např. klávesnice a myš jsou nahrazeny zvukovým vstupem. Taková záměna vstupů a výstupů je přesně to, co potřebují osoby se zdravotním postižením, u kterých došlo k významnému snížení některé smyslové či motorické funkce. Přizpůsobení osobního počítače se realizuje kombinací dodatečných speciálních softwarových a hardwarových prostředků. V uvedeném příkladu nahrazení mechanického vstupního zařízení zvukovým vstupem jsou zapotřebí vysoce kvalitní mikrofon, zvuková karta a program pro rozpoznávání řeči, např. program NEWTON Dictate 3 [11, 13]. Takto přizpůsobený počítač používá např. paní Horochovská, kvadruplegička, která pro své těžké fyzické postižení nemůže ovládat počítač rukama [9, 12]. Jinými postupy je pak realizováno přizpůsobení počítače pro osoby s jinými typy postižení – osoby nevidomé, osoby neslyšící, osoby s kombinovanými vadami aj. V mnoha případech však lze ke komunikaci s klienty použít běžný počítač nebo notebook s připojením k Internetu. Aplikační programy jako např. SKYPE, ICQ apod. umožňují účastníkům *on-line* textovou, hlasovou i vizuální komunikaci (nástroje *textová zpráva, hovor, videohovor*). Tyto ICT mohou sociální pracovníci běžně využívat při komunikaci s obtížně dostupnými klienty, tj. těmi, kteří jsou např. imobilní, žijí ve vzdáleném místě nebo těmi, jimž znevýhodnění vytváří komunikační překážky v sensorické nebo motorické oblasti a ICT jim poskytují alternativní prostředek komunikace. Pomocí ICT tak mohou sociální pracovníci efektivně realizovat část svých pracovních úkolů a poskytovat informační služby klientům. *Současně je třeba interpretovat právo osob se zdravotním postižením na plnohodnotný život [14] jako právo na život v moderní informační společnosti, který nelze bez ICT považovat za plnohodnotný.*

Mnoho informací v sociální oblasti má textový charakter (zákony, vyhlášky, návody) a lze je klientům předávat pomocí standardních *off-line* služeb Internetu – elektronické pošty a zejména webu. Příkladem webů státní správy jsou web Ministerstva práce a sociálních věcí <http://www.mpsv.cz/cs/> a Úřadu práce České republiky <http://portal.mpsv.cz/upcr/>, příkladem svépomocných webů organizací osob se zdravotním postižením je Informační portál pro osoby se specifickými potřebami Helpnet.cz <http://www.helpnet.cz/> nebo web Sjednocené organizace nevidomých a slabozrakých ČR <http://www.sons.cz/>. Není bez zajímavosti, že informační obsah webu cíleně zaměřeného na problematiku *sociální práce* nazvaný podle stejnojmenného časopisu *Sociální práce/Sociálna práca* <http://www.socialni prace.cz/> je sice ve srovnání s výše uvedenými zatím více než skromný, je však pozitivní, že byl založen a pracuje se na něm [20].

Skupinovou komunikaci pak umožňují aplikace navržené pro sdílení a společnou tvorbu obsahu – tzv. Web 2.0. Slouží např. pro vytváření a udržování tzv. sociálních sítí, např. známého Facebooku, jehož zápory jsou často analyzovány a diskutovány, zejména pak těmi, o jejichž ICT gramotnosti lze s úspěchem pochybovat. Klady a přínosy sociálních sítí však významně převažují, viz např. *7 důvodů, proč mám rád Facebook* a navazující diskuse [4]. Za zmínku stojí, že v sociálních sítích počet zájmových skupin osob se zdravotním postižením vysoce převažuje počet skupin cíleně zaměřených na sociální práci. Tyto technologie tedy klienti sociálních pracovníků používají, jejich využití sociálními pracovníky při praktické sociální práci je však významně horší – např. na českém Facebooku je nyní (r. 2012) dostupných pouze pět skupin, jejichž název obsahuje slova „sociální práce“ a tyto skupiny mají dohromady cca 80 členů. Další skupinou užitečných aplikací jsou pak encyklopedie využívající tzv. „wiki“ technologie – např. *Portál Wikipedie* a platformy pro publikování souvislejších textů, tzv. blogů, např. <http://blog.idnes.cz/>, které hrají velkou roli při veřejné diskusi a tříbení názorů k aktuálním společenským problémům včetně otázek politických a sociálních.

Výše uvedené ICT mohou sociální pracovníci využívat nejen při komunikaci s klienty, ale také při vzájemné komunikaci a všude tam, kde ICT přinesou zvýšení efektivity jejich práce. Příkladem může být technologie hlasového ovládání počítače, kterou lze samozřejmě použít pro běžné diktování zpráv do počítače a jejich následný převod do textové podoby (dopisy, sdělení, úřední rozhodnutí, záznamy z jednání, elektronická pošta atd.). Z jiných oborů je však známo, že nutnou podmínkou efektivního využívání ICT není jen dostupnost potřebného vybavení, počítačů, programů a připojení k Internetu, ale část pracovníků si také musí doplnit své znalosti a dovednosti v práci s ICT tak, aby je mohla využívat na úrovni ICT gramotných uživatelů.

Při využívání ICT jakožto komunikačního prostředku nelze opomíjet požadavky na zpřístupnění elektronicky předávaných informací osobám se zdravotním znevýhodněním, viz např. *Blind Friendly Web* Sjednocené organizaci nevidomých a slabozrakých ČR, která zjistila, že mnoho webových stránek je pro uživatele se zrakovým postižením nepřístupná a tudíž nepoužitelná [22].

1.3 Etika používání ICT v sociální práci

Rozsah použitelnosti ICT v sociální práci je velmi široký a na této skutečnosti nic nezmění ani každodenní realita skutečného používání ICT v této oblasti – prostředky a nástroje nabízené novými ICT jsou často využívány neefektivně, velmi omezeně nebo dokonce nesprávně, tj. např. způsobem přímo ohrožujícím důvěrnost informací předávaných mezi sociálními pracovníky a jejich klienty. Pravidla etického využívání ICT v sociální práci v podmínkách České republiky zatím chybí, jako námět a příklad však lze použít *Standardy pro technologie v praxi sociální práce – 7 let starý dokument Národní asociace sociálních pracovníků* sdružující 150 tisíc sociálních pracovníků ze všech 50 členských států USA. Východiskem těchto standardů je konstatování, že informační a komunikační technologie (tehdejší terminologií jen „technologie“) v podmínkách USA již změnily praktickou sociální práci, zejména v oblasti poskytování služeb a získávání informací. Jejich využití vyžaduje speciální znalosti a dovednosti potřebné k tomu, aby byly sociální služby poskytovány co nejlépe. Je kladen důraz na to, aby použití technologií v sociální práci bylo založeno na hodnotách, etice a zásadách profese sociální práce. *Standardy* obsahují celkem deset položek:

- 1) *Etika a hodnoty.* Sociální pracovníci poskytující služby pomocí telefonu nebo jiných elektronických prostředků musí jednat eticky, zajistit svou odbornou způsobilost, chránit klienty a prosazovat hodnoty své profese.
- 2) *Dostupnost.* Sociální pracovníci musí mít přístup k technologiím a odpovídajícím podpůrným systémům tak, aby zajistili kvalifikovanou praxi. Přijmou opatření k tomu, aby klientům zajistili dostupnost technologií.
- 3) *Kulturní kompetence a ohrožené skupiny obyvatel.* Sociální pracovníci musí zvolit a rozvíjet vhodné on-line metody, postupy a dovednosti, které budou sladěny s kulturními, bi-kulturními nebo marginálními zkušenostmi klientů z jejich vlastního prostředí. V úsilí o dosažení kulturních kompetencí musí sociální pracovníci umět pracovat s různými skupinami lidí, kteří mají odlišnou kulturu nebo kteří mohou být považováni za členy ohrožených skupin obyvatelstva – osoby se znevýhodněním nebo postižením, příslušníky rasových a etnických menšin nebo skupin s odlišnou sexuální orientací a těch, jejichž prvním jazykem není angličtina.
- 4) *ICT kompetence.* Sami sociální pracovníci zodpovídají za to, že zvládnou nové technologie, nástroje a dovednosti potřebné pro výkon kompetentní a etické praxe v sociální práci. Zodpovídají za své sebevzdělávání a za to, že své znalosti a dovednosti v oblasti technologií udrží na aktuální úrovni.
- 5) *Právní kompetence.* Sociální pracovníci, kteří při poskytování služeb používají telefonické nebo jiné elektronické prostředky, musí dodržovat všechna legislativní

ustanovení související s touto jejich praktickou činností. S porozuměním akceptují skutečnost, že poskytování služeb může být zákonem upraveno jak z hlediska klientů, kteří služby přijímají, tak z hlediska sociálních pracovníků, kteří služby poskytují.

- 6) *Identifikace a verifikace.* Sociální pracovníci, kteří při poskytování služeb používají elektronické prostředky, se musí klientům přesně a srozumitelně představit (identifikovat) a musí ověřit (verifikovat) identitu klienta a jeho kontaktní informace.
- 7) *Soukromí, důvěryhodnost, dokumentování a zabezpečení.* Sociální pracovníci budou při poskytování služeb pomocí elektronických prostředků chránit soukromí klienta. Vyhotoví záznam o všech poskytnutých službách a budou věnovat zvláštní pozornost ochraně elektronických údajů klientů a o klientech.
- 8) *Potlačení rizik.* Sociální pracovníci poskytující služby pomocí telefonu nebo jiných elektronických prostředků musí zajistit takovou kvalitu svých činností a postupů při poskytování služeb, aby tyto byly etické a právně korektní a chránily klienty i samotné sociální pracovníky před případnými soudními spory.
- 9) *Praktické kompetence.*
 - *Obhajoba a sociální akce.* Sociální pracovníci musí používat technologie k informování veřejnosti o sociální politice, ze které mohou mít prospěch jednotlivci i celé skupiny. Sociální pracovníci se musí snažit hledat a poskytovat nástroje, příležitosti a informace tak, aby sami klienti mohli hájit své vlastní zájmy.
 - *Komunitní praxe.* Sociální pracovníci musí prosazovat přijetí a používání takových technologií, které povedou ke zlepšení života v komunitě.
 - *Administrativní praxe.* Sociální pracovníci se průběžně vzdělávají v technologiích, které zlepšují kvalitu realizace uskutečňovaných programů a poskytování služeb. Investují do budování a údržby technologií a navrhuji opatření cílené na zajištění dostupnosti informačních systémů poskytovatelů služeb, dosažení potřebné úrovně zabezpečení těchto systémů a ochrany uložených osobních údajů.
 - *Klinické kompetence.* Sociální pracovníci musí získávat a udržovat aktuální své znalosti o dynamice on-line vztahů, o výhodách a nevýhodách off-line interakce a o způsobech, kterými může být správně a bezpečně praktikována sociální práce využívající technologie.
 - *Výzkum.* Sociální pracovníci, kteří provádějí výzkum a/nebo vyhodnocují, šíří a implementují jeho výsledky prostřednictvím technologií, tak musí činit způsobem, který zajistí etickou důvěryhodnost a informovaný souhlas účastníků.
 - *Supervize.* Používají-li supervizoři a kontrolovaní sociální pracovníci technologie při supervizích a konzultacích, musí dodržovat stejné standardy, jaké jsou aplikovány při osobní supervizní činnosti (tváří v tvář) a současně musí mít nezbytné kompetence pro používání technologií.
- 10) *Celoživotní vzdělávání.* Sociální pracovníci musí dodržovat standardy Národní asociace sociálních pracovníků (USA) pro celoživotní profesní vzdělávání a dodržovat platné zákony týkající se uznávání a hodnocení výsledků celoživotního vzdělávání poskytovaného pomocí technologií [10].

Mnohé z uvedených standardů lze bez obtíží aplikovat i na evropskou i tuzemskou sociální práci. Sociální pracovník, který chce nebo musí používat ICT při komunikaci s klientem, by např. měl znát základní zásady a praktické postupy zabezpečení elektronické komunikace – měl by umět používat šifrování elektronické pošty, měl by znát rozdíl mezi protokolem `http` pro výměnu hypertextových dokumentů a jeho zabezpečenou nadstavbou `https` a měl by umět zjistit, který z protokolů je při načítání konkrétní webové stránky použit. Sociální

pracovník by také měl umět zajistit, aby nepovolaná třetí osoba *nemohla* z jeho záznamových médií (pevného disku počítače či notebooku, USB flashdisku apod.) přečíst důvěrná data klientů, a to ani v tom případě, že nad nimi sám ztratil kontrolu v důsledku jiného trestného činu (např. krádeže). Uvedené příklady zde slouží jen pro ilustraci a každý sociální pracovník si může snadno sám ověřit, jak by řešil takové základních ICT úlohy potřebné pro praktické dodržování ustanovení *Etického kodexu společnosti sociálních pracovníků ČR* v sociální práci využívající ICT, např. pravidla „sociální pracovník chrání klientovo právo na soukromí a důvěrnost jeho sdělení“ [21].

2 Test informační gramotnosti TIGR

Test TIGR byl navržen a realizován firmou SCIO (přesný název www.scio.cz, s.r.o.) a je koncipován jako elektronicky (on-line) zadávaný srovnávací test sestavený ze dvou částí. Pro testování informační gramotnosti byl tento test zvolen proto, že velmi dobře splňuje požadavky na testování v oblasti ICT, má velmi dobrou reliabilitu (při srovnávacích testováních lepší než 0,85), existuje v on-line verzi a pro účely komparace jsou dostupná data o výsledcích testování žáků základních škol a víceletých gymnázií z let 2009 a 2010.

2.1 Specifikace testu TIGR

V první části (část A) testu TIGR je obsaženo 50 otázek zaměřených na znalosti aplikací (textový procesor; tabulkový kalkulátor; práce s internetem; operační systém, správa souborů a hardware; ostatní) a čistý čas testování je standardně nastaven na 45 minut. Druhá část testu (část B) pak ověřuje praktické dovednosti v práci s textovým procesorem, textovým editorem a programem pro úpravu fotografií. Je v ní zadáno 14 komplexních úloh s čistým časem na jejich řešení 30 minut. Výběr úloh do obou částí testu byl veden požadavkem, aby se mohly sledovat především obecné dovednosti a principy, které se uplatní napříč celým spektrem činností a úkolů řešených při práci s počítači. Samozřejmým požadavkem bylo, že se nesmí jednat o úlohy, které by svým zaměřením neodpovídaly Rámcovému vzdělávacímu programu pro základní vzdělávání (dále jen RVP ZV) [1]. Testování informační gramotnosti na FP TUL bylo provedeno u studentů kombinovaných studijních programů jako srovnávací v rámci většího projektu zaměřeného na informační gramotnost jiné skupiny žáků, u které byla testovací doba prodloužena na 65 minut (část A) a 50 minut (část B).

V části A bylo zařazeno 50 otázek a respondent zde mohl získat maximálně 50 bodů (jeden bod za každou správně zodpovězenou otázku). Za chybnou odpověď na uzavřenou otázku se 1/3 bodu odečítá a minimální počet bodů – 13,0 by tak získal žák, který by v každé otázce s uzavřenou odpovědí označil pouze nesprávné odpovědi a neoznačil ani jedinou správnou odpověď. Pokud žák úlohu vynechal, nic se nepřičítá ani neodečítá.

V části B testu TIGR měli respondenti za úkol vytvořit nový dokument pomocí textového editoru, vložit do něj text z textového souboru a ten postupně upravit podle zadání. Následovala práce v tabulkovém kalkulátoru, kde se od žáků požadovalo řazení dat a vložení vzorce, úprava rozložení buněk, počtu listů v sešitu a nakonec vložení grafu určitého typu. Posledním úkolem byla úprava (zesvětlení) fotografie a její vložení do vytvořeného textového dokumentu. Vyhodnocení výsledků dosažených v části B bylo provedeno částečně manuálně. Při hodnocení úrovně práce žáka bylo sledováno celkem 33 bodovaných kritérií a maximálně bylo možné dosáhnout 33 bodů – za každé splněné kritérium jeden bod [19].

2.2 Specifikace výzkumného vzorku a podmínek testování

Výzkumný vzorek tvořilo celkem 48 studentů prvního ročníku kombinovaného bakalářského studijního programu sociální práce ($N_{SP} = 48$, dále jen *studenti sociální práce*). Testovaným

studentům byly přiděleny anonymní testovací účty k přístupu na server SCIO, na kterém byl test TIGR on-line dostupný. Prostřednictvím standardních počítačů v PC učebně FP TUL (dvoujádrové procesory Intel, 1 GB operační paměti, operační systém Windows XP SP3, webové prohlížeče a kancelářský balík Open Office, rychlé připojení k internetu prostřednictvím sítě CESNET) se k serveru SCIO připojili a v průběhu cca 3 hodin test vykonali. Testovací doba pro jednotlivé části je uvedena ve specifikaci testu TIGR, mezi jednotlivými částmi měly testované osoby přestávku cca 5–10 minut. Testování bylo provedeno v letním semestru akademického roku 2010/11. Srovnání výsledků bylo provedeno na vzorku 29 studentů prvního ročníku kombinovaného magisterského studijního programu učitelství pro 1. stupeň základní školy ($N_1 = 29$, dále jen *studenti primárního vzdělávání*), který měl podobnou věkovou strukturu. Výsledky testování byly dále porovnány s výsledky testování žáků víceletých gymnázií ve věkové skupině 14–15 let (dále jen *studenti G tercie a G kvarty*), které bylo v roce 2010 provedeno firmou SCIO v rozsahu 385 osob.

Významná část testovaných studentů kombinovaných studijních programů již vykonává práci odpovídající zaměření svého oboru a často má mnohaleté praktické zkušenosti. S výjimkou těch nejmladších však málokterý absolvoval nějaké systematické vzdělávání v oblasti využívání ICT. V nejlepším případě se jejich ICT vzdělávání týkalo úzce zaměřené uživatelské obsluhy specializovaných aplikací, např. databázových programů správy sociálního zabezpečení, resp. v případě srovnávacího vzorku studentů primárního vzdělávání jejich ICT vzdělávání proběhlo formou kurzů úrovně „Z = základní“, resp. „P = pokročilí“ realizovaných v rámci Státní informační politiky ve vzdělávání (SIPVZ).

2.3 Výsledky testování

V průběhu on-line testování byly odpovědi jednotlivých testovaných osob uloženy na testový server SCIO a vyhodnoceny – otázky kategorie „volba z nabídky více odpovědí“ části A automaticky, otázky kategorie „volná odpověď“ části A a odevzdané soubory části B vyhodnotili a obodovali pracovníci fy SCIO dle výše popsané metodiky. Výsledné hodnoty byly uloženy do tabulky v tabulkovém kalkulátoru umožňujícím přímé statistické zpracování primárních dat.

Vyhodnocení výzkumu bylo provedeno metodami matematické statistiky a v souladu s principy statistického usuzování [8]. Pro soubory bodových hodnocení testovaných osob byly vypočteny základní veličiny popisné statistiky, viz tabulka č. 1 a č. 2. Pro vyjádření výsledků testovaných skupin byly zvoleny veličiny průměrné skóre $\bar{X}$ skóre (jednotkou je počet dosažených bodů) a průměrná čistá úspěšnost $\bar{X}_{\text{čistá úspěšnost}}$ (relativní veličina vyjádřená v procentech), jako doplňující údaj jsou v tabulkách ještě uvedeny minimální a maximální hodnoty skóre zjištěné v testovaném souboru. Tyto veličiny byly zvoleny ve shodě se závěrečnými zprávami fy SCIO tak, aby bylo možno výsledky vzájemně porovnávat [19]. V obou případech byly testovány náhodně vybrané skupiny respondentů a data uvedená v tabulkách č. 1 a č. 2 lze tedy považovat za statistické odhady uvedených veličin zatížené statistickými chybami, které odpovídají velikosti testovaných skupin.

Ukázalo se, že v části A testu TIGR dosahují studenti sociální práce průměrných výsledků srovnatelných s výsledky studentů primárního vzdělávání a studentů kvarty víceletého gymnázia. Dosažené $\bar{X}$ skóre studentů sociální práce je v rámci statistické chyby stejné jako $\bar{X}$ skóre studentů kvarty (35, resp. 33,3 bodů z 50 možných) a ani rozdíl mezi výsledky studentů sociální práce a primárního vzdělávání není na 5% hladině spolehlivosti ($\alpha = 0,05$) statisticky významný, viz Tabulka č. 1.

Tab. 1: Výsledky testu TIGR

Výsledek. testu. / skupina	TIGR – část A				TIGR – část B				TIGR
	Ø skóre [bod]	Ø čistá úspěšnost [%]	min skóre [bod]	max skóre [bod]	Ø skóre [bod]	Ø čistá úspěšnost [%]	min skóre [bod]	max skóre [bod]	Celkem respondentů
Sociální pracovníci	35	70	22,0	47,3	16	50	0	33	48
Primární vzdělávání	33	66	11,7	39,3	20	60	0	32	29
G tercie (SCIO 2010)	29,4	58,5	9,3	48	14,2	42,9	0	33	203
G kvarta (SCIO 2010)	33,3	66,6	10,7	48,7					182

Zdroj: vlastní výsledky a [19]

Porovnání výsledků praktické části B testu TIGR není tak jednoznačné, protože z dostupných dat uvedených v závěrečných zprávách nelze ze souhrnných dat uváděných za celý testovaný soubor separovat výsledky jednotlivých skupin v ročnících. Bylo však možné stanovit počty testovaných osob, které v praktické části dosáhly minimálního a maximálního skóre, viz Tabulka č. 2. Nejvýznamnějším zjištěním je, že v testované skupině studentů sociální práce existují dvě velké, statisticky významné skupiny respondentů – skupina *respondentů bez funkční ICT gramotnosti* a další skupina respondentů, které lze označit jako *osoby funkčně ICT gramotné*. Celá jedna třetina respondentů neprokázala základní praktické dovednosti a jejich skóre B bylo rovno nule.

Tab. 2: Počty testovaných osob, které dosáhly hraničních hodnot skóre v části B

Výsledek testu / Skupina	TIGR – skóre části B						TIGR
	B = 0 [počet]	B > 30 [počet]	B = 33 [počet]	B = 0 [rel %]	B > 30 [rel %]	B = 33 [rel %]	Celkem respondentů
Sociální pracovníci	15	9	3	31	19	6	48
Primární vzdělávání	4	3	0	14	10	0	29

Zdroj: vlastní výsledky

V obou testovaných skupinách existují také statisticky významné skupiny osob, jejichž skóre B bylo větší než 30 (tj. lepší než 90 % škály) a tyto osoby prokázaly v testu TIGR výborné základní praktické dovednosti. Při interpretaci tohoto výsledku je však třeba vzít v úvahu a zdůraznit, že se jedná o úroveň praktických dovedností požadovaných jako *výstup vzdělávání ze základní školy*, tj. takovou, která pouze vytváří dobré předpoklady pro další vzdělávání v oblasti ICT a sama o sobě nestačí pro účelné a efektivní využívání ICT v oborech vyžadujících vysokoškolskou kvalifikaci.

Existence skupiny bez funkční ICT gramotnosti implikuje potřebu *základního* praktického ICT vzdělávání pro tyto studenty, kteří nejsou schopni efektivně řešit ICT úlohy požadované při současném vysokoškolském vzdělávání ani využívat moderní ICT aplikace v praktické sociální práci. Tito studenti si musí doplnit *základní praktické ICT znalosti a dovednosti* tak, aby se vyrovnali svým spolužákům. Bylo by chybou, kdyby pro své nedostatečné ICT znalosti a dovednosti museli ukončit bakalářské studium, protože se často jedná o osoby s dlouholetými zkušenostmi v sociální práci a s výborným vztahem ke klientům.

Současně je třeba konstatovat, že pouze průměrné výsledky většiny studentů sociální práce v teoretické i praktické části testu TIGR (určeného žákům ZŠ ve věkové skupině 14–15 let) nevytvářejí dostatečné předpoklady pro úspěšné plnění studijních úkolů na vysoké škole ani pro vytvoření a udržení potřebného předstihu např. před některými osobami se zdravotním postižením získaným úrazem, se kterými by mohli tito studenti po absolvování studia pracovat. Příkladem mohou být osoby se zdravotním postižením, kterým se využívání ICT stalo koníčkem (viz blog již zmiňované Dity Horochovské <http://horochovska.blog.idnes.cz/>)

nebo vysokoškolsky vzdělané osoby profesionálně zaměřené na informatiku a ICT, které při úrazech (autonehody, sportovní úrazy) utrpěly poškození míchy a zůstaly upoutány na invalidní vozík. Jejich zdravotní postižení jim však nebrání využívat ICT na velmi vysoké úrovni. Proto je žádoucí zařadit do přípravy sociálních pracovníků také navazující ICT předměty zaměřené na moderní ICT aplikace, a to jak všeobecného, tak i specializačního charakteru. Ze zkušeností z výuky informatiky a ICT pro budoucí učitele dále vyplývá, že tyto předměty musí být kvalitně metodicky připraveny a didakticky zvládnuty a musí obsahovat vyvážený poměr teoretických poznatků a praktických dovedností. Učivo těchto předmětů nelze omezit na „klikací“ ovládání vybraných aplikací, neboť takto omezené uživatelské dovednosti velmi rychle zastarávají.

V neposlední řadě je třeba navrhnout a implementovat pravidla využívání ICT do standardů sociální práce, analyzovat klíčové vlastnosti ICT aplikací, které tato pravidla splňují a zařadit do přípravy sociálních pracovníků také relevantní teorii a praktické příklady dodržování těchto pravidel. Vzorem mohou být standardy uvedené v kapitole 1.3.

Všeobecně je třeba realisticky predikovat a do vysokoškolské přípravy sociálních pracovníků rychle implementovat vývoj v oblasti ICT, který do vzdělávání i běžného života přináší významné změny. V oblasti ICT se lze opřít např. o koncepční strategické dokumenty určené pro základní a střední školství, jako např. akční plán pro realizaci *Koncepce rozvoje informačních a komunikačních technologií ve vzdělávání pro období 2009–2013* (usnesení vlády ČR č. 1276/2008), který na jaře r. 2009 zpracoval expertní tým pod vedením M. Hausnera a který je všeobecně znám pod názvem *Škola pro 21. století*, krátce *Škola*²¹. „*Škola*²¹“ je současná škola, která aktivně naplňuje inkluzivní model výuky a reformu školy za pomoci moderních technologií« [7]. Tento dokument ukazuje směr a způsob, kterým se bude ubírat vzdělávání občanů – potenciálních klientů sociálních pracovníků a je nezbytné jej zohlednit proto, aby se *vzdělávání sociálních pracovníků v ICT neodtrhlo od očekávaných ICT znalostí a dovedností jejich budoucích klientů ani očekávané úrovně ICT gramotnosti občanů informační společnosti*.

Závěr

Ukazuje se, že ICT gramotnost studentů kombinovaného bakalářského studijního programu sociální práce na FP TUL zjišťovaná pomocí testu informační gramotnosti TIGR firmy SCIO je srovnatelná s ICT gramotností studentů kvarty víceletého gymnázia, tj. respondentů věkové skupiny 14–15 let. Bylo zjištěno, že existuje velká, statisticky významná skupina studentů sociální práce bez funkční ICT gramotnosti.

Pro studenty sociální práce bez funkční ICT gramotnosti by bylo žádoucí zajistit předmět, ve kterém si *základní ICT znalosti a dovednosti mohou doplnit*. Výchozí ICT znalosti a dovednosti většině studentů kombinovaného studijního programu sociální práce zřejmě neumožňují vytvořit si v oblasti ICT dostatečný předstih před potřebami budoucí praktické sociální práce tak, aby mohli v praxi aplikovat moderní ICT na úrovni odpovídající technologicky i společensky vyspělým zemím. Bylo by velmi vhodné tyto skutečnosti zohlednit při návrhu studijních programů sociální práce, které by měly zahrnovat předměty prohlubující ICT znalosti a dovednosti nad úroveň výstupů vzdělávání na základní škole. Bylo by žádoucí zabránit stavu, kdy sociální pracovníci nebudou schopni využívat ICT v praktické sociální práci jen proto, že nebudou znát a ovládat na relevantní úrovni moderní ICT aplikace, které velké skupiny jejich klientů běžně využívají.

Poděkování

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ICT LITERACY OF SOCIAL WORK STUDENTS (TIGR FOR FUTURE SOCIAL WORKERS)

Functional ICT knowledge and skills are an essential part of university students' competencies as well as a part of the qualification of a modern social worker. The ICT literacy of 48 freshman students in a combined social work training programme was surveyed using an online test of ICT literacy, TIGR, developed by the SCIO Company. It was found that the average test results of university students in combined study are comparable to the results of students finishing the first half of their studies at an 8-year grammar school. Although they meet the requirements of basic school-leavers, without further training in ICT, their knowledge and skills are not sufficient for the effective use of new technologies in social work practice. Furthermore, it was found that a total of one third of the students in social work does not have the basic ICT knowledge and practical skills required to accomplish university study obligations in an ICT literate manner.

IKT LESEFÄHIGKEIT DER STUDENTEN DER SOZIALARBEIT (TIGR FÜR ZUKÜNFTIGE SOZIALARBEITER)

Funktionale IKT-Kenntnisse und Kompetenzen sind ein wesentlicher Teil der Studenten-Kompetenzen und der Qualifikation eines modernen Sozialarbeiters. Das Niveau der IKT-Lesefähigkeit wurde mit dem Online-Test Informationskompetenz TIGR bei 48 Erstsemesterstudenten des kombinierten Sozialarbeit-Studiumprogramms festgestellt. Es stellte sich heraus, dass die durchschnittlichen Testergebnisse von College-Studenten des kombinierten Studiums vergleichbar mit den Ergebnissen der Studenten sind, die die erste Hälfte des Studiums an mehrjährigen Gymnasien abschließen. Obwohl sie die Anforderungen zwar für einen Grundschulabsolventen erfüllen, ist dies jedoch ohne weitere Ausbildung in dem IKT-Bereich für eine effektive Nutzung der neuen Technologien in der Praxis der Sozialarbeit nicht angemessen. Es wurde auch festgestellt, dass ein ganzes Drittel der Studierenden der Sozialarbeit im Bereich der IKT keine Grundkenntnisse und praktische Fertigkeiten besitzt, die für ein Hochschulstudium nötig sind.

UMIEJĘTNOŚCI ICT STUDENTÓW PRACY SOCJALNEJ (TIGR DLA PRZYSZŁYCH PRACOWNIKÓW SOCJALNYCH)

Funkcjonalne umiejętności w zakresie technologii informacyjno-komunikacyjnych (ICT) stanowią istotny element kompetencji studentów szkół wyższych i kwalifikacji nowoczesnych pracowników socjalnych. Poziom umiejętności ICT mierzono za pomocą on-line testu umiejętności informatycznych TIGR w grupie 48 studentów pierwszego roku połączonego kierunku studiów Praca socjalna. Okazało się, że przeciętne wyniki badanych studentów szkół wyższych połączonego kierunku są porównywalne z wynikami uczniów kończących pierwszą połowę nauki w sześćcio-/ośmioletnich liceach ogólnokształcących. Spełniają wymagania stawiane absolwentom szkoły podstawowej (w RCz w normalnym trybie 9-letniej), jednak bez dalszego kształcenia w dziedzinie ICT nie są wystarczające dla efektywnego wykorzystywania nowych technologii w praktyce pracy socjalnej. Stwierdzono również, że jedna trzecia studentów pracy socjalnej nie posiada podstawowej praktycznej wiedzy w zakresie ICT ani umiejętności w zakresie obsługi ICT niezbędnych do realizowania obowiązków na studiach.

PROBLEMS OF DEMOGRAPHIC DEVELOPMENT ON THE EASTERN BORDER OF THE EUROPEAN UNION: CASE STUDY OF THE WESTERN UKRAINE

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Abstract

The article deals with the issue of demographic development on the eastern border of the European Union - applying the example of the Western Ukrainian border regions (in Ukrainian: *oblasts*). The aim of the research was to identify the main problems and tendencies of demographic development in these regions. On the basis of state statistical data, the authors analysed general demographic indicators and identified the main trends in further demographic development of these border regions. The authors tried to explain the observed trends. A lot of economic and social problems in the Western Ukrainian border regions that have been identified are common to other regions adjacent to the eastern border of the European Union. The research was conducted by the Ukrainian National Academy of Sciences and Wrocław University of Economics.

Introduction

Demographic potential is a very important component of Integral Area Potential. Its state reflects economic and social features of the society's development, while population reacts to the main problems in the country in terms of reproductive behavior and mobility. Demographic potential, as a basis of labor potential, is important for the regional economic activity. Research of regional demographic development is important because of the complicated demographic situation in the Ukraine. The ongoing regional demographic processes are caused by changes in the economic activity, social development, and ecological situation. At the same time, the demographic processes in reverse affect social and economic development in the regions. The quantity of population and the migration activity are the most dynamic indicators of the economic and social conditions, environmental security, comfort level and prosperity in particular regions and countrywide.

1 The Western Ukrainian regions' location role in their demographic development

As the Western Ukrainian regions (Lvivska, Zakarpatska, Ivano-Frankivska, and Chernivetska oblasts) are located within the Ukrainian Carpathians and Dniester river basin, similarities in the historical territory development are the result of similarities in settling processes, population distribution, and ethnic composition. As a result of the similarities in natural and environmental features, economic, social and demographic processes, all Western Ukrainian regions (oblasts) are included in the Carpathian socio-geographical region.

After Ukraine gained its independence, the geopolitical location state of the Western Ukrainian regions changed significantly. Most of them – Lvivska, Zakarpatska, and Chernivetska oblasts – border with the European Union, and are included in the international association of the Carpathian Euroregion, through which the major Trans-European Crete international transport corridor passes (Lisbon – Trieste – Liubliana – Budapest – Kyiv – Volgograd).

The border location facilitates the development of economic cooperation among the neighboring countries. This factor also helps to create joint venture companies and form Euroregions [6]. For example, in 2008, 12 joint venture companies worked only in the Yavorivskyi municipality of the Lviv region in Ukraine and Lyubachivskyy povit of Podkarpackie Voivodeship in Poland (local administrative formations) alone [2]. Growth of economic activity in the region stimulates its economic development, creates new jobs, and raises the level and quality of life as a result of the improved demographic situation in general. However complicated the socio-economic situation, such as a lack of jobs, a high unemployment rate, and a lack of opportunities for young people, combined with the border location and closeness to the EU countries, this situation has led to a rise in migrational activity and people leaving the region.

2 Main trends in the demographic development of the Western Ukrainian border regions

The natural depopulation process in the Ukraine started in 1994, and is still going on along with another process of the population, ageing. Moreover, economic difficulties combined with the political unrest are further escalating the negative demographic trends. At the beginning of the 21st century, the Ukraine found itself in a complicated demographic situation, characterized by the natural population decrease and growth in emigration abroad. To improve the demographic situation in the country, on April 1, 2005 the Ukrainian Parliament passed a new law, which significantly increases financial aid to families for the birth of a child.

Western Ukrainian regions are mainly rural, densely populated areas with their regional population distribution center in the city of Lviv. As of 01/01/2011 the population of the region was over 6 million (13.3% of total Ukraine population). The population distribution system is characterized by the domination of small towns and villages. Settlements are distributed unevenly with the majority of them at foothills in the Ivano-Frankivsk and Chernivtsi regions. Highland villages are mostly in the Lviv, Chernivtsi and Zakarpatsky regions.

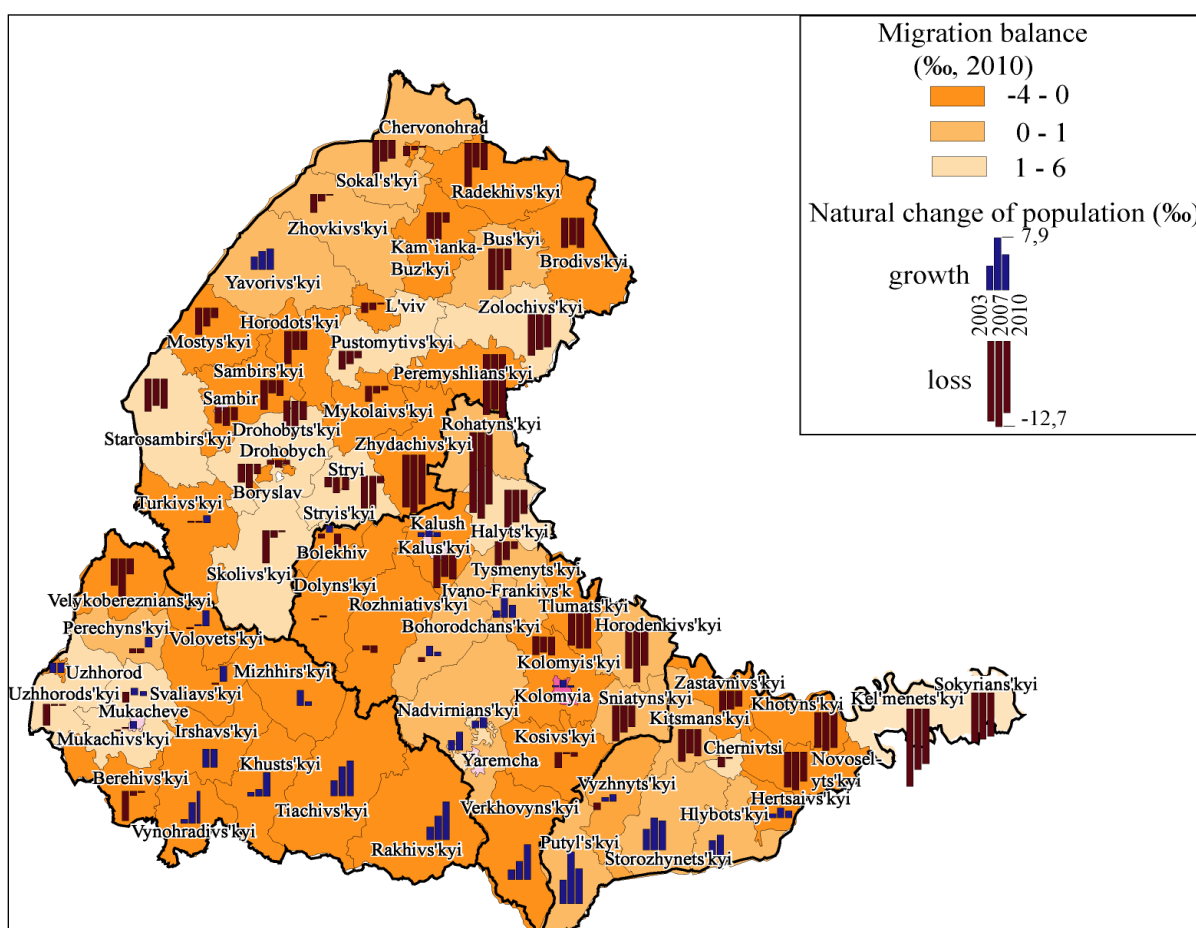
Ethnically, Western Ukrainian regions are quite diverse. Measuring ethnic diversity, the Ivano-Frankivsk region could be considered mono-ethnic, the Lviv and Zakarpatsky regions – transitional and the Chernivetsky region – multiethnic. Judging by the number of nationalities represented, the Chernivetsky and Zakarpatsky regions are the most ethnically diverse regions in the country, where national minorities reside in small, compact territories and often represent the majority of the population in those historically formed territories. Particularly, in the Chernivetsky and Zakarpatsky regions, compact settlements of Romanians can be found (in Gritsiansky municipality they represent 91.5% of the population, in Glybotsky municipality – 45.3%), in the Chernivetsky region there are compact settlements of Moldavians, in the Zakarpatsky region – Hungarians and Slovaks (in the Berehivsky region Hungarians represent the majority, comprising 2/3 of the total population, and many of them also live in the Uzhgorodsky, Vynogradivsky and Mukachivsky regions). These main, general countrywide trends with some specific regional demographic features are typical for Western Ukrainian regions.

2.1 Natural population increase

The natural population increase is an important indicator of life quality as well as the level of socio-economic development in the region. Constant population decrease is typical for most regions (except the Zakarpatsky region) in the area, as a result of natural and partially physical moves. However, the birth rate in the Western Ukrainian regions is higher than the average in the Ukraine. The Zakarpatsky region has the highest birth rate in the area (14.6) while the mortality is lower than average in the country.

One of the main demographic development indicators is natural population growth. Since 2006, among all Western Ukrainian regions, additional population growth could be seen only in the Zakarpatsky region.

In the Carpathian region, natural population growth indicators are significantly different judging by territory (Fig. 1). There is negative population growth in most regions. Regions with negative population growth from 2003-2010 include most municipalities in the Lviv region, part of municipalities in the Ivano-Frankivsk and Chernivtsi regions, which form a strip along the Eastern border of the Carpathian region. Among them, the highest indicators are in the Rogatynsky and Galitsky districts in the Ivano-Frankivsk region, the Zhidachivsky and Peremishliansky districts the Lviv region and the Kelmenetsky and Sokiriansky districts in the Chernivtsi region.



Source: own elaboration on the basis of [4]

Fig. 1: Main demographic indicators of the Western Ukrainian border regions

Districts with positive population growth during 2003-2010 are mostly in the Zakarpatsky region as well as the southern border districts of the Chernivtsi and Ivano-Frankivsk regions. The highest additional population growth could be seen in the highland and foothills of the

Tiachivsky and Rahivsky districts of the Zakarpatsky region, where a high birth rate (13.5-13.6%) is accompanied by a low mortality rate (10.1-12.0%) as well as in the Putilsky and Storozhinetsky districts of Chernivtsi region. This could partially be explained by better economic conditions as a result of entrepreneurial activities in the border area coupled with traditions of big families.

One of the regional demographic development conditions influencing the birth rate is the population's ethnic structure. For example, additional natural population growth in the Chernivetsky region is observed due to the compact settlement areas of Romanians and Hutsuls, who historically formed the tradition of having big families. In the Zakarpatsky region additional population growth is significantly higher in the areas of compact Gipsy settlements. The lowest indicators of natural population growth within this region are observed in the areas where Moldavians and Ukrainians represent ethnic majorities [1].

It is worth pointing out the additional natural population growth in the cities of Uzhgorod, Ivano-Frankivsk, Yaremcha, Kolomyia, Mukachevo, Kalush, which are the centers of the regional population distribution system. The better demographic situation there could be explained by a better socio-economic situation, particularly due to a partially preserved city forming basis (foundation for urban development), job creation, and more developed social services. These cities are the centers of migration activity.

2.2 Age-Gender Structure of the population

Another important, indicator of the socio-economic conditions and natural population growth in the region is the population's age-gender structure. Negative natural population growth combined with emigrational activity of the young leads to a population age structure misbalance, resulting in population ageing. Since 2000, the proportion between the young and the elderly shifted towards the population ageing while the proportion of the working people decreased.

However, it is typical for the Western Ukrainian regions that the proportion of the young to the elderly is higher compared to the countrywide average (table 1). It could be explained by the higher birth rate combined with the lower mortality in this region.

Tab. 1: Age-Gender Structure of the population in 2009

Country / Region	Age structure in %			Male	Female
	the young	population in the working ages	the elderly		
Ukraine	15.2	60.3	24.5	46.1	53.9
Chernivtsi	18.0	60.1	21.9	46.8	53.2
Ivano-Frankivsk	18.2	60.2	21.6	47.1	52.9
Lviv	16.9	60.8	22.3	47.3	52.7
Zakarpatsky	20.1	61.1	18.8	47.8	52.2

Source: own elaboration on the basis of [4]

2.3 Trends in international and cross-regional migration processes

Besides the natural population growth, migration processes also influence the demographic situation in the Western Ukrainian regions. Migration alone can help partially or completely offset the negative natural population growth. Due to the critical state of most of the region's economies, the Western Ukraine belongs to the group of regions-donors, which supply emigrants to other regions as well as other countries. Negative migration balance has long been a typical situation for the most areas of the Carpathian economic region in the Ukraine. Nowadays, the total number of migrants is decreasing with the Chernivtsi and Ivano-

Frankivsk regions having a positive migration balance. However, the countryside remains the donor of the migrants for the region and the country as a whole. Migration processes in the Western Ukraine consist of two opposite processes. On the one hand, the population moves to other regions, to the capital and abroad, on the other hand, people from the countryside, where economic situation are even worse, move to the bigger towns and cities within the region, which partially or completely offset the population outflow from the region.

Nowadays, the migration process has clearly defined economic character, as there is virtually no national minority emigration to ethnic territories. Moves between different country's regions, i.e. work migration, prevail in today's migration processes. Migration across the border is mainly directed towards EU countries, the Russian Federation and the USA. In the Gender Structure of work migrants, women comprise the majority, and in the Ethnic Structure – Ukrainians (46.1%) [1].

Most Western Ukrainian regions have negative migration balance. A significant number of cross-border migrants is typical for border areas in the Zakarpatsky and Chernivtsi regions as well as some districts of the Ivano-Frankivsk region (Kalush, Rozhnatysky, Verhovinsky) (table 2).

Tab. 2: Net migration rate of the Western Ukrainian oblasts in 2009

Country / region	Net migration rate per 1000 people						
	International migration			Cross-regional migration			Net migration
	immigr.	emigr.	balance	immigr.	emigr.	balance	
Ukraine	71.5	42.3	29.2	527.2	527.2	0.0	29.2
Chernivtsi	67.9	24.2	43.7	422.1	363.4	58.7	102.4
Ivano-Frankivsk	37.8	28.4	9.4	371.9	389.6	-17.7	-8.3
Lviv	20.7	24.9	-4.2	315.8	332.9	-17.1	-21.3
Zakarpatsky	20.2	38.6	-18.4	186.2	261.6	-75.4	-93.8

Source: own elaboration on the basis of [4]

There are districts with a positive migration balance in all Carpathian regions (figure 1). The majority of them are in the Lviv and Chernivtsi regions. Additional migration balance is typical for the cities of Chernivtsi, Ivano-Frankivsk, Mukacheve and Yaremcha. This positive balance is mainly due to migration within the regions.

The natural population decrease as well as the decrease due to migration in the Carpathian area is mainly caused by the complicated socio-economic situation in the country. The deep economic crisis, which started at the end of the Twentieth Century, has been negatively affecting the city-forming basis urban development foundations. A sharp drop in economic activity, loss of jobs due to the partial plants closures, leading to high unemployment, along with low salaries and retirement benefits, which were until recently below the cost of living, inflation (in 2010 the rate of inflation was 9.1%) [2], unsatisfactory living conditions for the young, all these reasons caused people to lose confidence and feel insecure about the future and also led to a sharp decline in the population's income and welfare. As a result, the birth rate dropped and migration processes became more active including illegal. As we can see, the main reason for the demographic crisis in the Ukraine and in the Carpathian region is particularly impoverishment of the population majority, caused by market reforms and political unrest in the country.

3 Job market as the main factor in the creation of demographic conditions

The job market is an important factor, which affects the demographic conditions in the region. The country's transition to the market economy including the change in forms of property

ownership caused labor resources redistribution between industries to raise their quality role along with the necessity for effective use of regional labor resources.

During the period of economic reforms, while the employment level throughout the main industries in the manufacturing sector decreased, in non-manufacturing sector industries, such as retail, food, travel, education, healthcare, loans, finances and insurance, government, utilities, customer services, there was an increase in the employment level.

Tab. 3: *The labor market conditions in the Western Ukraine in 2009*

Country / region	Inactivity rate, ILO methodology [%]	Unemployment rate [%]	Average wage, UAH monthly	Candidates per workplace
Ukraine	8,8	1,9	1906	8
Chernivtsi	9,4	1,9	1523	25
Ivano-Frankivsk	9,0	2,1	1628	81
Lviv	8,5	1,7	1667	22
Zakarpatsky	9,9	1,7	1562	19

Source: own elaboration on the basis of [4]

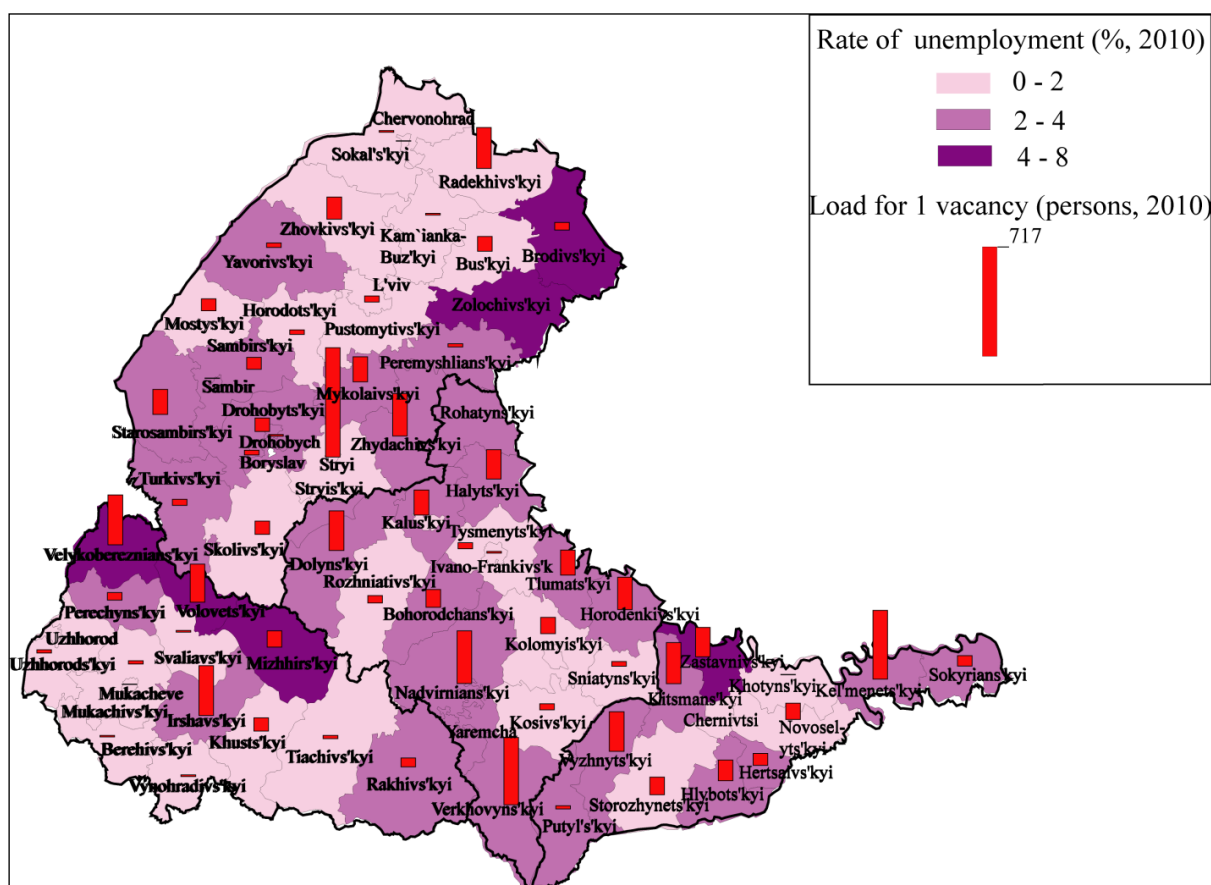
As table 3 shows, the unemployment rate in the Carpathian Region is higher than it is countrywide. At the same time, the wages in this region are significantly lower than in other parts of the Ukraine. 1 euro costs approximately 10.6 Ukrainian hryvnia (UAH) [5]. The regional labor market in Western Ukrainian regions with minimum wages as a result of low employment also has high unemployment and a high number of candidates per workplace. Those regions are the leaders in work migration. Taking an even closer look, the highest unemployment rates can be seen in the Brodivsky and Zolochivsky districts of the Lviv region, the Velikoberezhniansky, Volovetsky and Mezhihirsky districts of the Zakarpatsky region and the Zastanivsky district of the Chernivetsky region. All this is the result of the industrial production and agriculture decline, which lead to a lack of jobs.

The number of candidates per workplace in the Western Ukraine exceeds by several times the countrywide average. The situation is catastrophic in the Ivano-Frankivsk region, with 81 candidates per workplace [4]. Among the Carpathian regions especially noticeable are the city of Striy (717 candidates per workplace), the Verhovinsky district of the Ivano-Frankivsk region (449 candidates), the Kelmenetsky district of the Chernivtsi region (450 candidates) and the Velikoberezhniansky district of the Zakarpatsky region (328 candidates) (figure 2). Such a situation is the result of a lack of jobs. Many positions are taken by retired people while new jobs are not being created and, sometimes, are even being cut, which makes it virtually impossible for young professionals to find a job. As a result, the number of candidates per workplace keeps growing.

As we can see in figure 3, the complicated situation on the labor market, the high unemployment rate, lack of jobs and opportunities to realize the potential, especially for the young, low income followed consequently by a low quality of life, all are the factors, which cause the increase in migration activity and emigration abroad.

The proximity of these regions to the Member States of the European Union border and the scale of demographic and social problems that have been identified during the research are significant arguments for making an effort to solve these problems (at least partially). Great opportunities to minimise the negative influence of demographic and social problems in the border regions adjacent to the eastern border of the European Union could be found in cross-border cooperation programmes and the still existing possibility of the creation of European Groupings of Territorial Cooperation (EGTC). The Ukraine seems to be the first neighbouring

country which will be a member of EGTC with the partners from the non-member states of the EU.



Source: own elaboration on the basis of [4]

Fig. 2: Main indicators of the labor market in the Western Ukraine

Conclusion

Since the beginning of the 20th Century, the demographic situation in the Western Ukraine could be seen as the general decrease in population as a result of its natural and physical movement. However, it is much more favorable than it is generally throughout the Ukraine. The Zakarpatsky region is one of three regions in the Ukraine which has a positive additional population growth (+2.1), other regions (Chernivtsi, Lviv and Ivano-Frankivsk) have insignificant negative, natural population growth. The speed of negative population growth in the region slows as a result of gradual growth in the birth rate and a decline in the mortality rate. The best demographic situation is in the Uzhgorod region, the Irshavsky and Drohobitsky districts, with positive natural and migration population growth. To summarize, the level of demographic well-being in the Western Ukraine is the best in the country. It could be explained by more stable financial inflows from migrant workers working abroad, big family traditions, ethnic features and religious beliefs. As a result of higher natural population growth, there is a higher share of children and a lower share of elderly people in the population age structure.

Due to city-forming basis the deterioration of urban development foundations and a lack of jobs, the labor market in the Carpathian region notices a high unemployment level, a high number of candidates per workplace and low salaries.

Open borders, the Ukraine's integration in the world economic community, border proximity of the Western Ukrainian regions as well as the unsatisfactory state of the country's labor

market lead to an increase in population mobility and its outflows in search of employment. Of course, the improvement of the economic situation is one of the main conditions for improvement of the demographic situation – not only in border regions. In Western Ukrainian border regions a number of cities and villages with natural and historic recreational potential (cities Lviv, Chernivtsi, Uzhgorod, villages Slavsko, Shidnitsa in Lviv region, Vorohta in Ivano-Frankivsk region) have become important recreational centers. It is strongly recommended to strengthen such positive tendencies in changing of the economic structure of these regions. In new the programming period of 2014-2020 great opportunity to minimise the negative influence of the demographic and social problems in border regions adjacent to the eastern border of the European Union could be found in cross-border cooperation programmes and the possibility of the creation of EGTC.

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PROBLÉMY DEMOGRAFICKÉHO VÝVOJE NA VÝCHODNÍM OKRAJI EVROPSKÉ UNIE: PŘÍPADOVÁ STUDIE ZÁPADNÍ UKRAJINY

Článek se zabývá otázkou demografického vývoje na východní hranici Evropské unie – na příkladu západních ukrajinských pohraničních oblastí (v ukrajinštině *oblasts*). Cílem výzkumu bylo identifikovat hlavní problémy a tendence demografického vývoje těchto regionů. Na základě státních statistických údajů, autoři analyzují obecné demografické ukazatele a identifikovány hlavní trendy v rámci dalšího demografického vývoje těchto příhraničních regionů. Autoři se pokusili vysvětlit pozorované trendy. Mnoho ekonomických a sociálních problémů v západních ukrajinských pohraničních oblastech, které byly identifikovány, jsou společné s ostatními regiony přiléhajícími k východní hranici Evropské unie. Výzkum byl proveden v ukrajinské akademii národní věd a Wroclawi Vysoké školy ekonomické.

PROBLEME DER DEMOGRAPHISCHEN ENTWICKLUNG AN DER ÖSTLICHEN GRENZE DER EUROPÄISCHEN UNION: FALLSTUDIE DER WESTUKRAINE

Der Artikel befasst sich mit der Frage der demographischen Entwicklung an der Ostgrenze der Europäischen Union - nach dem Vorbild der westlichen ukrainischen Grenzregionen (in der ukrainischen *Oblast*). Das Ziel der Untersuchung war es, wichtige Probleme und Tendenzen der demographischen Entwicklung dieser Regionen zu identifizieren. Auf der Grundlage der staatlichen statistischen Daten analysieren die Autoren allgemeine demographische Indikatoren und identifiziert die wichtigsten Trends in der weiteren demographischen Entwicklung dieser Grenzregionen. Die Autoren versuchten, die beobachteten Trends zu erklären. Viele der wirtschaftlichen und sozialen Probleme in den westlichen ukrainischen Grenzregionen, die identifiziert wurden, gibt es auch in anderen Bereichen neben der Ostgrenze der Europäischen Union. Die Forschung wurde von der ukrainischen National Academy of Sciences und der Wrocław University of Economics durchgeführt.

PROBLEMY ROZWOJU DEMOGRAFICZNEGO NA WSCHODNIEJ GRANICY UNII EUROPEJSKIEJ: STUDIUM PRZYPADKU ZACHODNIEJ UKRAINY

W artykule podjęto problem rozwoju demograficznego na wschodniej granicy Unii Europejskiej – na przykładzie zachodnich regionów przygranicznych Ukrainy (w języku ukraińskim „*oblasti*”). Celem badania była identyfikacja głównych problemów i tendencji rozwoju demograficznego tych regionów. Na podstawie publicznych danych statystycznych autorzy przeanalizowali sytuację demograficzną, przedstawili wskaźniki demograficzne, a także zidentyfikowali główne tendencje dalszego rozwoju demograficznego tych regionów. Autorzy podjęli próbę wyjaśnienia zaobserwowanych tendencji rozwoju demograficznego. Sporo zidentyfikowanych ekonomicznych i społecznych problemów w zachodnich regionach przygranicznych Ukrainy, występuje także w innych regionach przylegających do wschodniej granicy Unii Europejskiej. Badanie zostało przeprowadzone przez Narodową Akademię Nauk Ukrainy i Uniwersytet Ekonomiczny we Wrocławiu.

CROSS-BORDER TOURISM IN THE NISA EUROREGION – THE CZECH REPUBLIC TERRITORY

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Abstract

The article deals with the issue of cross-border tourism in the Nisa Euroregion with a special focus on the part of the Nisa Euroregion situated in the Liberec region. It covers SWOT analysis of cross-border tourism in the Liberec region. It refers to strategic documents governing the tourism in the Czech Republic and the Liberec region in the period 2007 – 2013. The article points to the importance of the destination management for individual areas of tourism and the necessity of uniform promotion, marketing, joint product packages and the establishment of tourism networks in the Czech-Polish-German border zone region. The article further states numbers of visitors in the Liberec region during 2011 especially from Poland and Germany.

Introduction

The impact of tourism on economy significantly differs in various countries and is reflected in multiple areas. To estimate this impact, various perspectives are used. For instance we recognize the impact on the country balance of payments, on the gross domestic product (GDP) or on the rate of employment.

Tourism is not an economically and statistically closed sector captured by a set of predicative economic indicators, but rather a complex of various functions and activities of people interfering and penetrating into multiple economical branches in varying degrees.

With regard to cross-border cooperation the tourism in the border zone is classified based on several criteria. This kind of tourism is mainly based on the social-psychological aspects with prevailing motivation to participate, for example, in recreational tourism, cultural-educational tours, travelling aimed at exploration of the beauties of nature, etc. Tourism in border zones is also diversified by the age of people involved to tourism, of children and youth, tourism of the economically active population and tourism of senior citizens. Based on the number of participants, it is further divided into individual and group tourism. With regard to aspects of stay, tourism may be classified as urban, rural and spa tourism. Considering the duration of stay, tourism can be short-term or long-term. With regard to the organization of travelling and stay itself, we have organized and unorganized tourism. Based on the method of financing, we recognize commercial (free) and social (bound) tourism. But tourism may be also diversified on the basis of season, type of accommodation, and transport means used. We also have tourism focused on non-public places. From the balance point of view, we recognize tourism by place of realization – domestic, foreign and international tourism, tourism realized in the border zone or in the Euroregion.

1 Czech-Polish-German border zone region

The Liberec region is adjacent to the territory of the Republic of Poland and also to the Free State of Saxony, all together representing a border zone region.

A significant tool for the development of the Czech-Polish-German cross-border cooperation was the creation of Euroregions. In our region we have the Nisa – NYSA Euroregion established in 1991 as the Euroregion of Czech-Polish-German cooperation. Since the nineties of the last century, continuous support had been provided to the Czech-Polish-German cross-border cooperation through the CREDO program and the pre-entry programme called Phare (OBC - cross-border cooperation programme). As soon as the Czech Republic joined the EU, this programme was transformed to the initiative of the Association INTERREG IIIA Czech Republic - Poland 2004 – 2006 and the Association INTERREG IIIA Czech Republic - Free State of Saxony 2004 – 2006. In the current programme period, the support is provided through the Operational Programme of Cross-Border Cooperation Czech Republic – Republic of Poland 2007 – 2013 and the Operational Programme of Cross-Border Cooperation Free State of Saxony - Czech Republic 2007 – 2013.

The Nisa Euroregion is the initiator of the cooperation amongst regions in the border zone. It is a voluntary partnership of towns and municipalities. In the Czech part, it covers the area of three regions. Most of the towns and municipalities involved are situated in the Liberec region. In particular, there are 32 municipalities from the district of Česká Lípa, 26 municipalities from the district of Jablonec nad Nisou, 52 from the district of Liberec and 16 from the district of Semily.

The Nisa Euroregion provides a wide range of activities both for mountain and rural tourism. As one of the first Euroregions, it supports the development of “sustainable tourism”. It makes the best of the joint presentation, “Tourism in the Euroregion”, which is a website offering information on castles, chateaux, bike trails and interesting events. In the Euroregion, we also have a programme called “Joint Holiday Region” with a wide range of links to cultural enjoyment (museums, popular architecture, gardens and parks, religious and secular relics, cyclotourism, festivities and also the famous product of tourism called Severní Hřebenovka (a multifunctional tourism artery of the Nisa Euroregion; the main advantage of that is the establishment of three parallel tracks for pedestrians, bikers and skiers.

2 Strategic planning of tourism development

The development of tourism associated with border zone cooperation is affected by a wide range of strategic and operational documents developed at the level of municipalities, regions and governments. These strategic documents have been prepared for the period 2007 – 2013. According to these documents, the Czech Republic tourism should be aimed at the cultural tourism, natural recreation and sports, spa tourism, congress and incentive tourism. The main goal is to extend the average duration of stay of foreign visitors, to increase the number of domestic visitors and to boost the tourism out of the main season.

The development of tourism in the Czech Republic is also impacted by various conceptual documents, such as the Conception of the Czech Republic Tourism Policy for the period 2007 – 2013; the Consolidated Plan for Support of Tourism for the period 2010 – 2011; the State Programme for the Protection of the Czech Republic’s Nature and Landscape; the State Environmental Policy and Strategic Framework for Sustainable Development in the Czech Republic.

3 Strategic planning of tourism development in the Liberec region and the management of tourism

In the Liberec region, the development of tourism is managed by the Regional Authority, the Department of Culture and Monument Preservation and the Section of Tourism.

In the Liberec region, the key organization for the area of tourism is the Association for the Development of Tourism in the Liberec Region. At the lower regional level, there are four organizations aimed at tourism, representing the natural tourism regions – the Czech Paradise, the Krkonoše (Giant) Mountains, the Jizera Mountains and the Česká Lípa region. The network of tourist information centers (TIC) in the Liberec region covers 53 centers. The support of the local TIC activities is, however, still very low. Financial means provided for their financing are insufficient.

In the Liberec Region Development Programme for 2007 – 2013, several measures were adopted in order to improve the situation in the organizational structure of tourism and human resources. The goals and measures include the extension, interconnection and improvement of quality of services provided by the network of tourism organizations at local, regional and supra-regional levels; improvement of quality, coordination and realization of tourism products, programmes and projects at local, regional and supra-regional levels; improvement of qualification and education of human resources in the field of tourism; improvement of navigation and information systems in the field of tourism, including interconnection with the national and international network; improvement of coordination for drafting of strategic documents.

The problem of further development of tourism in the area of the Liberec region is dealt with in the Liberec Region Development Programme for 2007 - 2013, being regularly updated. Currently, the update for the period 2014 - 2020 is in the process of preparation.

Other strategic and conceptual documents aimed at tourism cover the Programme for the Development of Cycling in the Liberec Region for 2008 – 2013 and the Tourism Marketing Conception.

4 Tourism projects in the Liberec region

The Regional Authority of the Liberec region is involved in multiple operational programmes. Especially in the Regional Operational Programme, the CR Integrated Project, the Tourism Marketing Project and the Objective 3 for Support of Cross-Border Cooperation 2007 - 2013 between the Free State of Saxony and the Czech Republic (covering also the project of Severní Hřebenovka).

4.1 Small Projects Fund of the Nisa Euroregion

From the Small Projects Fund of the Nisa Euroregion, two projects were realized in 2012 – View towers in the Nisa Euroregion and Euroregiontour 2012. Recently the Regional Authority submitted another project called “Aristocracy as the project of ERN tourism”. If approved, the project will be implemented in 2013.

4.1.1 View towers in the Nisa Euroregion

Within the scope of this project, information about 44 accessible view towers in the Czech and German part of the Nisa Euroregion were compiled, all situated in the territory of the Liberec region and the district of Žhořelec. For each view tower, the services available were listed as well as the accessories/furnishing. A guide was issued for this purpose showing these data in the form of schematic pictograms.

4.1.2 Euroregion Tour 2012

From March 22nd to 24th, 2012 the 12th year of the largest tourism fair in Northern Bohemia and the selling exhibition of regional products was held on the premises of the Eurocenter in Jablonec nad Nisou. The fair was organized by the Liberec region in cooperation with statutory towns Jablonec nad Nisou and Liberec, the District Economy Chamber and the Eurocenter in Jablonec nad Nisou.

5 Destination management

The development of tourism in border zone regions has its specifics. In general the term destination means a territory having all presumptions for the development in the field of tourism. It has an adequately developed infrastructure, enough attractive places, services and interconnecting links. Destinations may be natural resorts, areas with specific products of tourism as well as towns with historical monuments or technical attractions. Destination may also be a target area in the particular region with a significant offer of attractions and tourism infrastructure. In larger sense, destinations may be countries, regions, settlements and other areas made typical by a large concentration of attractions for tourists, developed services and good infrastructure, resulting in an extensive and long-term concentration of visitors. Destination management represents a strategic approach to the development of destinations. It represents a group of methods and tools used for planning and directing the tourism activities to the relevant destination. A main presumption for destination management success is the sharing of a joint vision amongst the key parties involved.

5.1 Destination management SWOT analysis

The SWOT analysis aimed at the destination management revealed the following strengths: attractiveness of natural and cultural-historical sights/monuments; weaknesses: insufficient supply of products, low quality of services provided, weakly developed tourist infrastructure in some places, concentration of tourism in few centers; opportunities: development of regional cooperation including cross-border relations, use of financial means from structural funds, development of rural tourism and the related branches; threats: conflict between the effort to protect the sights and their economization, preference of other development goals by state authority bodies, existence of external risks.

5.2 SWOT analysis of tourism in the border zone region

The author of the article prepared the SWOT analysis of the Liberec region tourism with a special focus on the border zone region.

The key strengths of the tourism cover: advantageous position of the region at the boundary of three countries; attractive tourist environment (mountains, nature, sights, folklore); no language barrier with the immediate neighbor - Poland; close distance between the Czech and Polish markets; technical attractions, historical sights in Poland and Germany, existence of tourist information centers; possibility of recreation both in the summer and winter season; system of clear identification of tourist tracks all over the Liberec region; traditional social and cultural events; organizing of some traditional cultural and sporting events across the borders; already existing projects of cross-border (border zone) cooperation.

Tourism weaknesses are: non-existing joint promotion of destinations (Poland, Czech Republic, Germany); no interconnection of information through information centers in all areas of joint territory; non-uniform promotion of joint destinations; absence of complex products of tourism; lack of supporting services in the tourism centers.

The tourism opportunities mentioned are: development of winter and summer tourism with regard to the natural potential; good preconditions for the development of rural tourism - accommodation facilities in rural areas; extension of the supply of regional products, traditional crafts and folk arts; use of financial means from EU funds; improvement of tourists' awareness of attractive places and tourism infrastructure; improvement of joint destination promotion; interest of domestic and foreign investors to participate in the tourism; increase of job opportunities, more extensive cooperation within border zone regions (Poland, Czech Republic, Germany).

The main threats in tourism are: efflux of educated young and qualified people to address offers by other regions; efflux of demand due to insufficient quality of services; non-existence of coordinated (uniform) approach to organization and cooperation aimed at the support of tourism in the joint destination; often individual interests of municipalities in the field of tourism development; prevailing interests in other branches of industry.

6 Education

Education of people engaged in the tourism must be assured already within the framework of studies at secondary schools, higher vocational schools and especially at universities. In the Liberec region there are 7 secondary schools preparing students for tourism and hotel management (the Business Academy, the Hotel School and Secondary Vocational School in Turnov; the Secondary Vocational School and Training College in Česká Lípa; the Secondary School of Crafts and Services in Jablonec nad Nisou; the Secondary School of Gastronomy and Services in Liberec; the Secondary school in Lomnice nad Popelkou; the Secondary School of Farming and Forestry in Frýdlant; the Secondary Vocational School in Liberec. In the Liberec region there is also the Higher Vocational School of International Trade and the Business Academy with a special programme aimed at tourism. In the Technical University of Liberec, Faculty of Economics, lectures aimed at tourism may also be attended (studying field of tourism economics).

7 Development of tourism services

Border zone areas are clearly affected by rather short-term cross-border tourism, such as business trips, commuting to employment, visits of relatives or friends, participation in cultural and social events, transit transport, use of transport means across the borders, etc. On the Czech side, we can still see some forms of quasi-tourism, such as shopping tourism.

Information centers in border zones should provide information in multiple languages, especially in German and Polish languages. Integrated information systems should be shared by key entities in the relevant destination and should offer a wide range of on-line and free information on attractive places/sights in the area, accommodation/boarding capacities/facilities, cultural, social and sports events etc. They should also allow for booking of the services.

The border zone regions should proceed hand in hand with regard to marketing campaigns. They should create joint promotion materials to support the tourism and have shared presentation displays at tourism fairs.

7.1 Development of services in the Liberec region

The professional level of human resources engaged in the field of tourism in the Liberec region is often lower than average. This is reflected in the insufficient level of services provided, in mutual cooperation, sharing of information and experiences. Also, the skilled and qualified tourism managers are missing (especially at the regional and local level) those who

would take care of conceptual activities in the field of public administration - towns and tourist centers.

8 Tourism infrastructure in the Liberec region

The basic infrastructure especially consists of accommodation facilities (there were 756 of them in the Liberec region as of 1.1.2012). There are 417 hotels and guest houses at the moment. Visitors may use 36,553 beds, 12,232 rooms, 2,936 places for caravans and tents.

As shown in the following Tab. 1, the number of accommodation facilities decreased by 161 from 2006 to 2011. Also, the number of beds decreased accordingly (by 4,115). The number of domestic guests decreased by 146,267 in the period from 2006 to 2011 and the number of foreign visitors decreased by 97,337. The number of overnight stays decreased by 660,017 compared to the situation in 2006.

Tab. 1: Attendance of the Liberec region in the period 2006 – 2011

	2006	2007	2008	2009	2010	2011
Hotels	917	895	890	835	777	756
Beds	40 668	39 927	42 155	41 503	37 976	36 553
Guests	802 499	709 225	703 787	652 987	632 568	656 232
Non-residents	243 166	211 999	200 664	165 482	148 269	145 829
Overnight stays	2 809 907	2 530 537	2 433 746	2 344 293	2 206 479	2 149 890

Source: ČSÚ (Czech Statistic Office) 2006 - 2011

The vast majority of foreign visitors in 2011 came from Germany (75,031), Poland (17,961), the Netherlands (10,113), Slovakia (6,158), Denmark (4,668) and Russia (3,341).

8.1 Development of tourism-related infrastructure in the Liberec region

The demand for actively spent holidays has been growing constantly. This calls for a wide offer of special equipment and gear required (rental places, special communication etc.). Therefore, pedestrian and tourist tracks, biking trails, educative tracks, hippo-tracks as well as cross-country skiing tracks are developed together with relaxation stations, picnic places, shelters, benches, information and map boards.

In the border zone, the development of the tourism-related infrastructure is quite on the agenda. Facilities for active spending of leisure time, such as skiing complexes with social facilities, premises for keeping skis, production of technical snow, night lighting, etc. have been developed or modernized. There are also adrenaline centers aimed at water sports, bowling and squash halls, minigolf courses and tennis courts, wellness centers, new view towers, but also facilities for hippo-tourism.

The Liberec region covers tracks for pedestrians (2,868 km), cycling trails (2,226 km), cycling tracks (50 km), hippo-tracks (7 km), in-line trails (20 km) and tracks for some non-traditional types of tourism (18 km).

9 Development of tourism products

While developing new products of tourism, several criteria must be taken into consideration. Firstly, we must consider how the product will contribute to sustainability of tourism in the region - whether it is not in conflict with the protection of the natural and cultural heritage. Therefore, such products should be developed that support the attendance out of the main season, help to develop ecotourism, etc.

Every year the Regional Authority of the Liberec region announces the core topic. In 2012, it was “Fragile Beauty, Brilliant Taste - Glass, Jewelry and Beer”. For 2013, there will be two topics: French nobility and Ještěd, castles, castle ruins and technical attractions.

9.1 Fragile beauty, brilliant taste – glass, jewelry and beer

For the year 2012, the Liberec region selected the following motto for the presentation of tourism: “Liberec Region – Fragile Beauty, Brilliant Taste”, proving that the traditions such as the glass-making industry, the manufacture of jewelry or brewing of beer are still alive. The great finale of this theme was the exhibition entitled “Fragile Beauty, Brilliant Taste” in the period from August 24th to 26th, 2012 in the Eurocenter, Jablonec nad Nisou.

9.2 French nobility

In the past, the territory of the Liberec region was the home of representatives of prominent noble families coming from France. In 2013, the Regional Authority of the Liberec region will focus on multiple events in various parts of the region, especially castles and chateaux, where the French nobility lived.

9.3 Ještěd – castles, chateaux, castle ruins and technical sights

For the year 2013, the Liberec region is preparing a new brochure to introduce castles, chateaux and castle ruins in the territory of the Liberec region and the related areas of tourism, such as the Jizera mountains, the Česká Lípa region, the Czech Paradise, and the Krkonoše (Giant) Mountains.

10 Establishment of cross-border networks in tourism

Networks represent a special form of spatial organization of tourism. They especially cover so called business networks, such as networks of accommodation or boarding facilities. Entrepreneurs involved in the network access the market in a coordinated manner. With their joint proceeding, they may get better conditions for their businesses. In tourism, we also have networks of public entities, such as municipalities, micro-regions, operators and administrators of attractive places for tourism - national parks, cultural sights, etc.

Conclusion

Tourism represents a branch where the most job opportunities are created, especially in the area of small and medium-sized undertakings. Tourism contributes to the generation of gross domestic product in border zone regions, stimulates private and public investments and affects the revenues of municipal and regional budgets.

The existing amount of tourism could be, however, much bigger if the quality of services provided were improved and the facilities for tourism were used evenly throughout the year.

The Liberec region, as a border zone, is closely linked to the border zone in the Republic of Poland and the Free State of Saxony. Despite the fact that the Nisa Euroregion, established in 1999, has been developed quite significantly in the area of joint tourism, there is still much to be done and plenty of things to improve with regard to shared promotion, marketing, tourism products, networks, etc.

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PŘEŠHRANIČNÍ CESTOVNÍ RUCH V EUROREGIONU NISA – NA ÚZEMÍ ČESKÉ REPUBLIKY

Příspěvek se zabývá problematikou příhraničního cestovního ruchu v Euroregionu Nisa se zaměřením na tu část, která se nachází v Libereckém kraji. Obsahuje SWOT analýzu příhraničního cestovního ruchu v Libereckém kraji. Poukazuje na strategické dokumenty, kterými se řídí cestovní ruch v České republice a v Libereckém kraji v letech 2007 – 2013. Upozorňuje na důležitost destinačního managementu pro jednotlivé oblasti cestovního ruchu a na potřebu vytvářet jednotnou propagaci, marketing, společné balíky produktů v rámci cestovního ruchu a tvorbu sítí v cestovním ruchu v Česko-polsko-německém příhraničním regionu. Uvádí počty návštěvníků Libereckého regionu v průběhu roku 2011 především z Polska a Německa.

GRENZÜBERGREIFENDER REISEVERKEHR IN DER EUROREGION NEISSE – AUF DEM GEBIET DER TSCHECHISCHEN REPUBLIK

Dieser Beitrag befasst sich mit der Problematik des grenznahen Reiseverkehrs in der Euroregion Neisse unter besonderer Berücksichtigung des Teils, der im Reichenberger Bezirk (Liberecký kraj) liegt. Er enthält eine SWOT-Analyse des grenznahen Reiseverkehrs im Reichenberger Bezirk und weist auf strategische Dokumente hin, nach welchen sich der Reiseverkehr im Liberecký kraj in den Jahren von 2007 bis 2013 richtet. Er macht aufmerksam auf die Wichtigkeit eines Destinationsmanagements für die einzelnen Bereiche des Reiseverkehrs sowie auf die Notwendigkeit der Ausbildung einer einheitlichen Werbung, eines gemeinsamen Marketings, gemeinsamer Produktpakete im Rahmen des Reiseverkehrs und auf die Schaffung eines Netzes im Reiseverkehr im tschechisch-deutsch-polnischen Grenzgebiet. Der Artikel nennt die Anzahl der Besucher der Reichenberger Region im Laufe des Jahres 2011 vor allem aus Polen und Deutschland.

TRANSGRANICZNY RUCH TURYSTYCZNY W EUROREGIONIE NYSA – NA TERENIE REPUBLIKI CZESKIEJ

Artykuł poświęcony jest tematyce transgranicznego ruchu turystycznego w Euroregionie Nysa, koncentrując się na tej części, która znajduje się w Kraju Libereckim. Zawiera analizę SWOT przygranicznego ruchu turystycznego w Kraju Libereckim. Ponadto wymieniono dokumenty strategiczne, które dotyczą turystyki w Republice Czeskiej oraz w Kraju Libereckim w latach 2007 – 2013. Wskazano znaczenie zarządzania destynacją turystyczną w poszczególnych obszarach turystyki oraz podkreślono potrzebę stworzenia jednolitej promocji, marketingu, wspólnych pakietów produktów turystycznych a także tworzenia sieci w ruchu turystycznym w czesko-polsko-niemieckim regionie przygranicznym. Przedstawiono statystykę turystów, przede wszystkim polskich i niemieckich, w Kraju Libereckim za 2011 rok.

THE IMPACT OF INVESTMENT INCENTIVES ON CZECH REGIONAL INDUSTRY SPECIALIZATION AND POSITION IN THE GLOBAL VALUE CHAIN

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Abstract

The aim of this article is based on quantitative research of foreign multinationals using the benefits associated with investment incentives in the Czech Republic and to review the importance of this economic policy instrument for the global competitiveness of Czech regional industry. The investment incentives have been targeted on high-tech industries possessing advanced technologies since 1998. Active support for investment in high-tech industries and investment in high-tech facilities is not as sufficient for technological development as compared to the global trend of multinational companies, i.e. the process of specialization and fragmentation of the global value chain. The key manufacturing industries in terms of FDI inflows into the Czech Republic, the manufacturing of electrical equipment, optical equipment, and automobile manufacturing are evaluated.

Introduction

The Czech Republic was on the threshold of a new era of economic liberalization of the internal economy and foreign trade in 1990's. The process of integration of the Czech Republic among the developed western economies significantly influenced the direction of regional development and regional industrial structure. A lack of capital resources and the loss of traditional manufacturing in the transformation of the Czech economy have been largely solved through privatization and foreign direct investments (FDI) in existing businesses through mergers, acquisitions, joint-ventures or greenfield investment. Since 1998, the Czech Republic has provided investment incentives to local and foreign investors, particularly favoring structurally affected regions. [24] The opinions of professionals about providing public incentives are far from unanimous. Opponents consider investment incentives as a mere bribe to investors without any special value and criticize as overestimated the importance of foreign direct investment as an engine of economic growth. They often argue that foreign investment in assembly plants that have received the promise of investment incentives, in terms of their actual contribution to the domestic economy, is highly questionable in terms of an industrialized country like the Czech Republic, and that they are rather a step backwards. The camp of investment incentive supporters, on the contrary, regards them as a stimulus to economic growth, with the potential to transform states with a minimal industrial tradition into countries with a high share of high-tech production. [19], [20]

The above mentioned arguments were not based on quantitative research. After almost 15 years of the investment incentives system's existence, it is now possible to quantify and assess their impact on regional development with some precision; in order to represent a qualitative and structural change in the economy. The crucial role here is the ability to continuously create innovations. [11], [22] The aim of this paper is to quantify and evaluate the contribution to the development of regional economies at NUTS3 – based on quite extensive

research conducted on 198 foreign multinational companies receiving investment incentives in the Czech Republic.

1 High-tech industries versus fragmentation of the value chain in the global economy

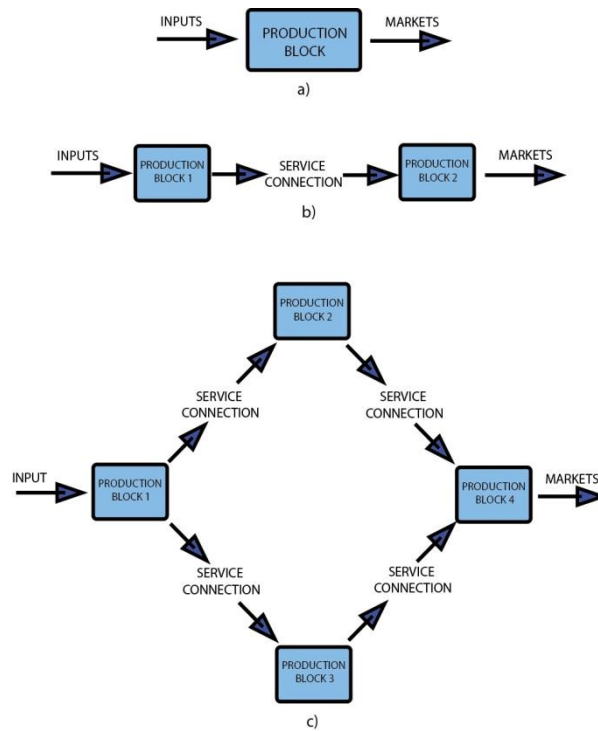
The impact of FDI supported by investment incentives for regional development can be greatly influenced by the type of production that is located in the regions. [2], [15]. Catching up with the economic level of developed countries plays a key role in bringing the level of labor productivity and the economic position in the global production (value) chain, i.e. increasing the share of technology and knowledge-intensive activities, which usually offer a wide range of beneficial effects, such as high wages and profits, the rapid growth of trade and productivity and a high degree of innovation, which is related to the dissemination of positive externalities. These industries are able to compete with quality at a relatively high price. [3], [6], [10], [11], [12]

Investment incentives are targeted at high-tech manufacturing industries. Global competition in these sectors is, however, pushing MNC's not only to search for locations with equipment best suited to their factor intensity of production, but parallel processes towards higher specialization. This leads to the fragmentation of the production chain; respectively the allocation process is divided into phases, which can be implemented in different places, by different owners. Fragmentation allows the localization of production by factor intensity of the various stages of the production chain and not the factor demands of the final product. Therefore a new concept of firms' specializations and national economies is required. [1], [11], [19]

What is important in the global economy, in terms of technological catch-up, is in which fragmented production chain phase are the companies, specialized to the industry sector, under which they fall. [1], [11], [22]

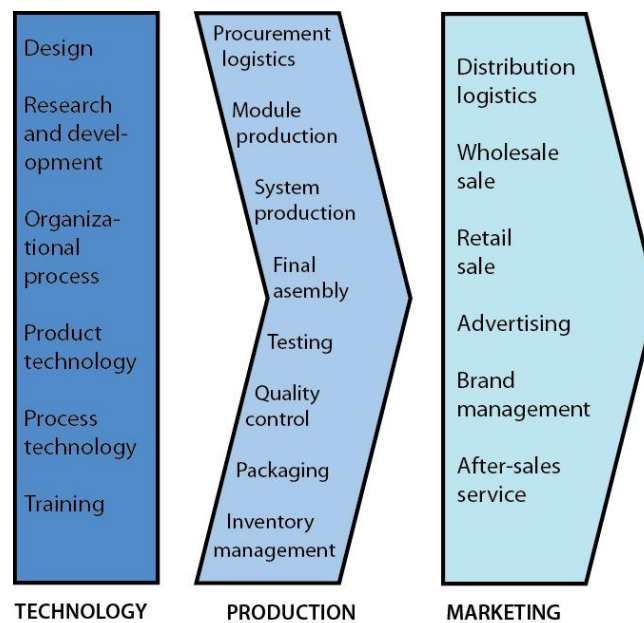
The general framework for the analysis of fragmentation were first presented by authors Jones and Kierzkowski in 1990 and it is shown in Fig. 1, where the first panel describes the traditional manufacturing process – the inputs are arranged and combined to produce the final product. All aspects of production are located in one place. There are, of course, many operations that must be organized, but spatial proximity keeps the cost of this organization at a low level. The second and third panel shows the already fragmented production, located in “blocks”, which are positioned in different locations. Coordination of activities and correlated services are implemented through service lines, which provide, e.g. freight, insurance, telecommunications, quality control and management coordination which provides the connection of production units. [1], [11], [22]

Another conception of the production chain fragmentation is associated with the value chain of production activities in the states UNCTAD World Investment Report 2002: Transnational Corporations and Export Competitiveness (see Fig. 2). From this perspective, an analysis of MNC as a whole is not sufficient, but it is necessary to evaluate activities within the company and their location. [21]



Source: Own, [1]

Fig. 1: General block diagram of the production chain fragmentation in space



Source: Own, [21]

Fig. 2: Fragmented value chain of multinational production

2 The research sources

The MNC's value chain fragmentation problem, with regard to regional development, is conceived of as a risk when the key activity of MNC supported by investment incentives is concentrated in the part of the production (value) chain with low added value, such as assembly plants. [19] This fact is, at the regional level, rather easily detectable by comparing the level of wages and labor productivity in the MNCs with average values in the regional industry. [17], [18]

This main hypothesis will be verified: ***“A strong positive contribution of FDI exists, as regards MNCs with investment incentives for regional specialization based together with non-price competitiveness, with reference to specializing in more sophisticated production in manufacturing in comparison with the national labor productivity average.”***

The primary research sources are statistics from issued decisions to grant investment incentives by CzechInvest – published on the web portal <http://www.czechinvest.org>, in the period from 1998 to 1912/2011. The secondary sources are the financial statements and annual reports of foreign MNCs. In the first half of 2012, there were only financial statements and annual reports of companies in 2010 available, which corresponds to a decision on the granting of IP in 2008.

By 2008, a binding commitment to investment incentives was acquired by 244 foreign MNCs. Total FDI amounted to 310 billion CZK. For these firms, it was further examined whether the financial statements and annual reports, as other necessary resources, had been digitized and published on the portal <http://www.justice.cz> (trade register) in the section “Collection of documents”. Data in the desired range were fully or largely digitized for 198 companies, constituting 81.2% of all subjects. The important characteristic is the amount of investment which represents the company, that being 260 billion CZK, i.e. 84% of the total investment. [5]

Attention is focused on the regional manufacturing industry sectors which, in the years 1998 – 2010, had registered the highest increase in the number of employees. Expanding sectors are strongly linked with Czech export specialization and are also the highest recipients of investment incentives in the Czech Republic:

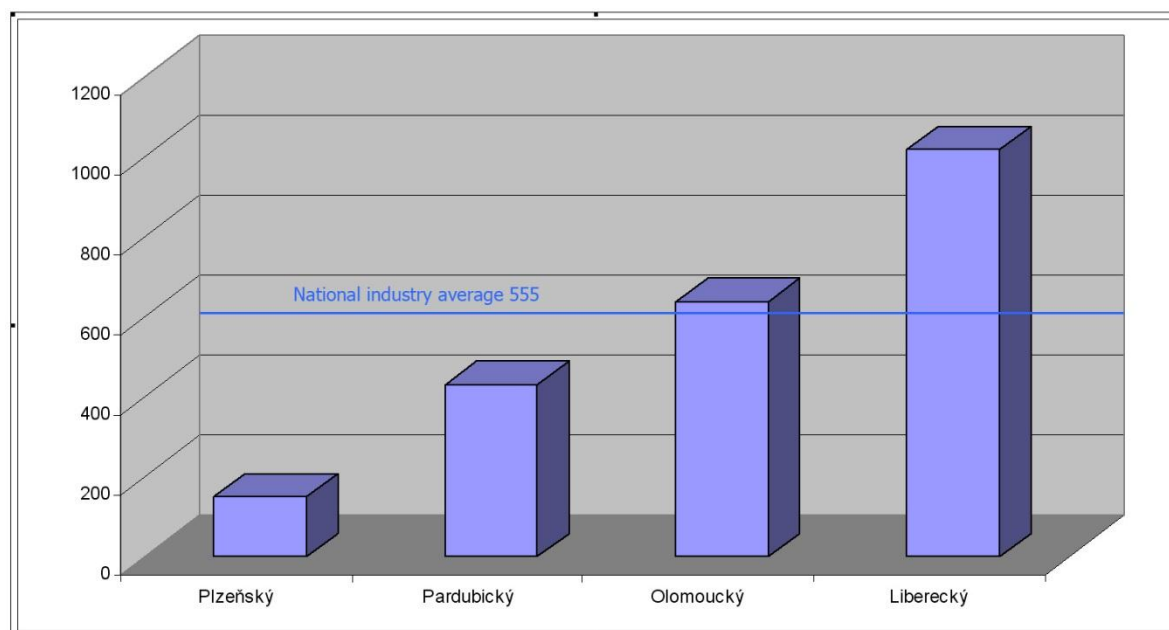
OKEC DL: Manufacturing of optical instruments and electronic equipment (16% of total FDI supported with investment incentives),

OKEC DM: Manufacturing of vehicles (52% of total FDI supported with investment incentives). [17], [18]

If the sector has a higher or increasing level of specialization in the region with regard to the concentration of branches in other regions, we could generally talk about comparative advantage. However, to address the fragmentation of the value chain, the specialization of the region can be based on the manufacturing process with low value added – thus, closely conceived comparative advantage is not sufficient. An important factor is, therefore, labor productivity based on the value added produced. [22]

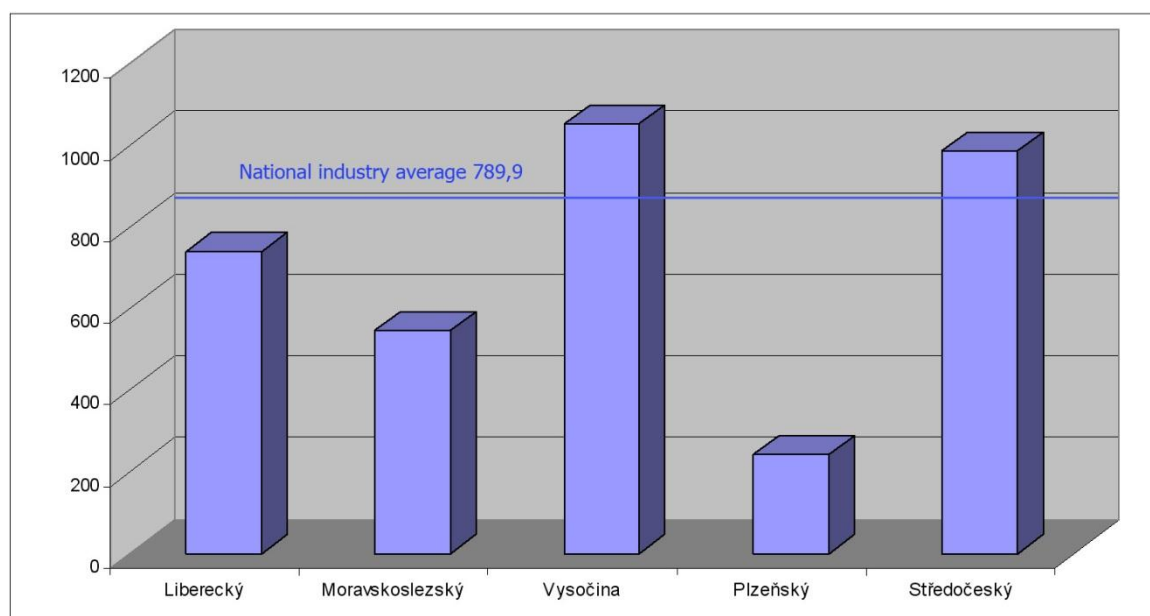
3 The research results

The most important (above average) specialization in the manufacturing of optical and electronic equipment was found in 4 regions – Plzensky, Pardubicky, Olomoucky and Liberecky. Only in the latter two regions, which show a significantly lower degree of specialization and share of FDI, was higher than average labor productivity detected (see Fig. 3). The Pardubicky region revealed an employment in industry DL of 3.25%, and the share of sectoral employment in MNCs had investment incentives amounting to 73.25% (the biggest investors are Foxconn CZ and AVX). The Plzensky region (1.02% and 18.9%) registered significantly lower sectoral productivity than the national sectoral average, (see Fig. 3). [17] [18]



Source: Own, [4], [5], [14]

Fig. 3: Manufacturing of electric and optical equipment in specialized regions: labour productivity per employee in MNCs with investment incentives in comparison with the national sectoral average of labor productivity in 2010 [thous. CZK]



Source: Own, [4], [5], [14]

Fig. 4: Manufacturing of vehicles in specialized regions: labor productivity per employee in MNCs with investment incentives in comparison with the national sectoral average of labor productivity in 2010 [in 1,000s CZK]

In the manufacturing of vehicles (DM), 5 regions with higher than average sectoral specialization were identified – Středočeský, Liberecký, Plzeňský, Moravskoslezský and Vysočina. Higher than average labor productivity, however, was found only in the Středočeský region (the largest investor here is Skoda, a. s.) and Vysočina (the biggest investor is Bosch Diesel) – see Fig. 4. MNCs with investment incentives in 2010 contributed to regional employment mostly in the Liberecký region at 1.84% followed by Vysočina

(1.58%), the Stredocesky region (1.35%), the Moravskoslezsky region (0.77%) and the Plzensky region (0.16%). [17], [18]

Even the industry DM region with the highest proportion of sectoral FDI (34.75%) – the Liberec region – has a lower than the national average labor productivity in the sector. Among the non-price competitive regions, concerning those with MNCs specializing in more sophisticated production in the manufacturing of vehicles in comparison with the national labor productivity average – belong to the Vysocina and Stredocesky regions.

Based on the above mentioned research, the hypothesis on the contribution of FDI, as regards MNCs with investment incentives for regional specialization based together with non-price competitiveness cannot be proven.

Conclusion

The aim of this article is based on quantitative research of foreign multinationals using the benefits associated with investment incentives in the Czech Republic and to review the importance of this economic policy instrument for the global competitiveness of the Czech regional industry. The investment incentives have been targeted on high-tech industries possessing advanced technologies since 1998. Active support for investment in high-tech industries and investment in high-tech facilities is not as sufficient for technological development as compared to the global trend of multinational companies, i.e. the process of specialization and fragmentation of the global value chain. Fragmentation allows the localization of production by factor intensity of the various stages of the production chain and not the factor demands of the final product. What is important in the global economy, in terms of technological catch-up, is in which fragmented production chain phase are the companies, specialized to the industry sector, under which they fall. Therefore, a new concept of firms' specializations and national economies is required.

In the Czech Republic, the key manufacturing sectors, in terms of export, employment growth, considering FDI, are electrical and optical equipment manufacturing (OKEC DL) and the manufacturing of vehicles (OKEC DM).

Based on the research which was conducted on the basic sample of 198 foreign companies in the Czech Republic drawing benefits associated with investment incentives, it was found that multinational firms in regions with the highest increase in FDI inflows into these sectors show lower productivity than the selected benchmark – the national sector labor productivity average. In the manufacturing of vehicles sector are the Liberecky, Moravskoslezsky and Plzensky regions. On the contrary, relatively higher labor productivity has been achieved by foreign MNCs in the Stredocesky region and Vysocina. In the manufacturing of electrical and optical equipment, the situation is similar in the four highly specialized regions – the average result of increasing specialization in FDI, labor productivity is significantly lower than the national average of the sectoral ones in the Plzensky and Pardubicky regions, although the Pardubice region noted the highest increase of employment in MNCs with investment incentives. The initial hypothesis about the positive impact of investment incentives on regional specialization and comparative advantage in non-price (or technological advantage) associated with a specialization in the value chain fragment with relatively higher value added was not established.

In general we can say that FDI granted by investment incentives still play an important role in economic growth and employment but apparently not from the perspective of economic development. Measures that could, in the future, lead to improvement, particularly regarding the implementation of a prudent decision-making authority regarding the granting of investment incentives and attracting businesses, which, while increasing employment in the

region, do not guarantee economic stability as there is a significant risk of investment outflow.

A possible solution is the linkage of investment incentives to local companies such as expenditures on research and development or the creation of local supply chains which may be very difficult because of the reduced flexibility of the multinational giants' state of business and innovation in certain regions.

Given the investment incentives decided in the years 2006-8, and the implementation of major investment projects, many of which were not yet in full operation in the year 2010, it can be assumed that the actual impact of FDI on regional development requires a longer time scale and can meet with significant changes.

Acknowledgements

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DOPAD INVESTIČNÍCH POBÍDEK NA REGIONÁLNÍ PRŮMYSLOVOU SPECIALIZACI A POZICI V GLOBÁLNÍM HODNOTOVÉM ŘETĚZCI

Cílem článku je na základě provedeného kvantitativního výzkumu zahraničních nadnárodních společností využívajících v ČR výhod spojených s investičními pobídkami, zhodnotit dosavadní význam tohoto nástroje hospodářské politiky pro globální konkurenceschopnost českého regionálního průmyslu. Investiční pobídky jsou od r. 1998 cíleny na high-tech odvětví disponující vyspělými technologiemi. Podpora vstupu investorů působících v high-tech odvětví a investice do high-tech zařízení jsou však jako dostačující podmínky pro technologický rozvoj v rozporu s globálními trendy nadnárodních společností – procesní specializace a fragmentace hodnotového řetězce. Hodnocena jsou klíčová odvětví zpracovatelského průmyslu z hlediska přílivu PZI i exportní specializace ČR – výroba elektrických a optických zařízení a výroba motorových vozidel.

AUSWIRKUNGEN VON INVESTITIONSANREIZEN AUF DIE REGIONALE INDUSTRIESPEZIALISIERUNG UND DIE STELLUNG IN DER GLOBALEN WERTSCHÖPFUNGSKETTE

Der vorliegende Artikel analysiert aufgrund einer quantitativen Untersuchung ausländischer multinationaler Unternehmen, die in der Tschechischen Republik die mit den Investitionsanreizen verbundenen Vorteile ausschöpfen, die bisherige Bedeutung dieses wirtschaftspolitischen Instruments für die globale Wettbewerbsfähigkeit der tschechischen regionalen Industrie. Die Investitionsanreize richten sich seit 1998 auf die Hightechbranche, die über hochentwickelte Technologien verfügt. Die Unterstützung beim Eintritt von Investoren, die in der Hightechbranche tätig sind, und Investitionen in die Hightechanlagen stehen jedoch als genügende Bedingungen für die technologische Entwicklung im Widerspruch zu den globalen Tendenzen von multinationalen Unternehmen – prozessspezifische Spezialisierung und Fragmentierung der Wertschöpfungskette. Es werden Schlüsselbereiche des verarbeitenden Gewerbes unter dem Gesichtspunkt des Zuflusses FDI analysiert und auch die Exportspezialisierung der Tschechischen Republik – die Herstellung von elektrischen und optischen Geräten und die Automobilfertigung.

WPŁYW ZACHĘT INWESTYCYJNYCH NA REGIONALNĄ SPECJALIZACJĘ PRZEMYSŁU I POZYCJĘ W GLOBALNYM ŁAŃCUCHU WARTOŚCI

Na podstawie przeprowadzonego ilościowego badania zagranicznych korporacji ponadnarodowych korzystających w Republice Czeskiej z korzyści związanych z zachętami inwestycyjnymi w niniejszym artykule poddano ocenie dotychczasowe znaczenie tego instrumentu polityki gospodarczej dla globalnej konkurencyjności czeskiego przemysłu regionalnego. Zachęty inwestycyjne były od 1998 roku adresowane do branż wysokich technologii dysponujących zaawansowanymi technologiami. Wsparcie wejścia inwestorów działających w branżach wysokich technologii oraz inwestycje w urządzenia wysokiej technologii są jednak jako wystarczające warunki postępu technologicznego sprzeczne z globalnymi tendencjami korporacji ponadnarodowych – specjalizacja procesowa i fragmentacja łańcucha wartości. Analizie zostały poddane kluczowe branże przemysłu przetwórczego z punktu widzenia napływu BIZ oraz specjalizacja eksportowa Republiki Czeskiej – produkcja urządzeń elektrycznych i optycznych oraz produkcja pojazdów samochodowych.

NON-FINITE STRUCTURES IN MANUALS AND THEIR TRANSLATIONS INTO CZECH

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Abstract

One of the main differences between English and Czech resides in the fact that an English sentence is much more frequently condensed by means of nominal forms. This difference then logically leads to certain problems in translation. Based on the analysis of four manuals, one of the most frequently translated types of texts, this paper analyses quantitative distribution of finite and non-finite clauses and the ways non-finite clauses are translated. The analysis shows that word for word translation is frequently used, which often does not represent the best solution. The biggest area of difficulty is the English infinitive of purpose. The frequently criticized translation of the infinitive of purpose by means of a preposition plus a noun, however, does not always need to be considered a mistake, but rather a feature of natural and inevitable development of language.

Key words: non-finite clause; subordination; coordination; condensation; translation; manuals.

Introduction

Translation is one of the most important areas where professional knowledge of languages is required, one of the practical and professional applications of foreign language knowledge. Apart from a number of other skills, good translators need to be aware of the differences in structures between the languages they translate because these areas always represent potential difficulties. One of the most significant structural differences between English and Czech is represented by the tendency to more condensed sentences in English. Dušková [7, p. 542] writes that “The main difference between English and Czech in this area is the more frequent use of finite subordinate clauses in Czech compared to the more frequent occurrence of nominal forms in English. The conditions for this difference are ensured by the systems of formal means in both languages. In English this system is richer (there is also the gerund which is not used in Czech) and more developed (English nominal forms distinguish not only voice, active and passive, but also time reference: simultaneity as opposed to time sequence). This significant tendency of English to express secondary predicates by means of nominal forms leads to the condensation of the structure of an English sentence”¹.

Non-finite clauses in written language typically occur in a formal style, most frequently in academic writing and official documents. Although manuals are representatives of neither type of the texts mentioned, it has been assumed that non-finite structures, as the means of

¹The citations which were originally written in Czech have been translated by the author. The original texts are listed in the foot notes. Dušková [7, p. 542] writes that „Hlavní rozdíl mezi češtinou a angličtinou v této oblasti je častější užívání vedlejších vět v češtině proti hojnějšímu výskytu jmenných tvarů v angličtině. Podmínky pro tento rozdíl jsou dány již systémem formálních prostředků v obou jazycích. V angličtině je tento systém bohatší (oproti češtině zahrnuje navíc gerundium) a rozvinutější (anglické jmenné tvary rozlišují nejen slovesný rod, aktivum a pasívum, nýbrž i časové vztahy: současnost (popř. následnost) proti předčasnosti).“

condensation, will be used there. Since precision, correct terminology and brevity, often required by the text layout, are the main concerns of translators, a tendency to word for word translation is expected in this kind of text, which may not always be correct.

In this paper the distribution, function and Czech translations of finite and non-finite clauses were studied on four user manuals originally written in English. The analysis uses *A Comprehensive Grammar of the English Language* [9] as the theoretical framework and applies functional approach to sentence analysis. It means that the non-finite clauses are classified according to their syntactic functions they fulfill in sentences.

1 Quantitative analysis

1.1 Methodology

Four user manuals for four different appliances originally written in English and their official published Czech translations were used as the material for the analysis. In each manual all explicitly expressed predications were classified into finite or non-finite and the finite clauses were further classified into main clauses and subordinate clauses. Since the manuals were of different lengths, the results of the quantitative analysis are presented in percentages.

In the decision and determination of what predications should and should not be included, I followed the methodology established by my colleague Marcela Malá [8, pp. 115-117] which was based on three criteria. According to the first criterion, non-finite verb forms which were lexicalized prepositions and *-ing* / *-ed* forms used as adjectival pre-modifications whose meaning is institutionalized were left out. Secondly, only non-finite forms functioning as individual sentence elements, not parts of complex verb phrases were excerpted. Thirdly, a distinction was made between multiple predication and coordination of clauses.

All non-finite clauses in each manual were further classified according to their syntactic functions. Based on the theoretical expectations and the actual data acquired, the following categories were established:

1. Non-finite adverbial clause of purpose
2. Non-finite adverbial clause of time
3. Non-finite adverbial clause of manner
4. Non-finite adverbial clause of condition
5. Non-finite relative clause
6. Non-finite nominal clause function as a subject
7. Non-finite nominal clause functioning as an object
8. Non-finite appositive clause

1.2 Discussion of the results

In all the four manuals, clauses were counted and classified. They were divided into finite clauses, which were further divided into main and subordinate clauses, and into non-finite clauses. Non-finite clauses did not require any further classification, because as Carter and McCarthy [6, p. 546] state: “Non-finite clauses can normally only be subordinate, and typically combine with finite ones in sentences”. The manuals consisted of the following numbers and kinds of clauses: MAN1 – 720 clauses, 540 finite (140 subordinate), 180 non-finite; MAN2 – 540 clauses, 410 finite (60 subordinate) 110 non-finite; MAN3 – 410 clauses, 260 finite (10 subordinate), 130 non-finite; MAN4 – 2450 clauses, 1900 finite (280 subordinate), 550 non-finite. The following table expresses the proportion of non-finite clauses out of the total number of clauses and then the proportion of non-finite clauses of the

subordinate clauses included in each manual. Further follows the information about the distribution of the pre-set functions of non-finite clauses.

Tab. 1: Quantitative distribution of finite and non-finite subordinate clauses

	MAN1		MAN2		MAN3		MAN4	
	Non-finite Clauses out of							
	total	sub. cl.	total	sub. cl.	total	sub. cl.	total	sub. cl.
	25%	62%	24%	68%	20%	99%	22%	66%
Adv. cl. of purpose	25%		45%		14%		65%	
Adv. cl. of time	19%		18%		-		8%	
Adv. cl. of manner	-		-		14%		1.5%	
Adv. cl. of cond.	-		-		-		8%	
Relative clauses	6%		18%		44%		12%	
Nom. cl. – subject	37%		9.5%		14%		1.5%	
Nom. cl. – object	13%		9.5%		-		4%	
Appositive clauses	-		-		14%		-	

Source: prepared by the author based on the analysis of the texts

It can be clearly seen from Table 1 that in terms of the absolute proportion of non-finite clauses in the studied user manuals, the result are almost the same for all the four: non-finite clauses represent approximately one fourth of all the clauses used. In terms of the proportion of non-finite clauses out of all the subordinate clauses, the numbers are similar for three out of the four manuals – the value being somewhere around 65%. MAN3 provided an extreme value where out of all subordinate clauses included, 99% were non-finite.

The results also confirm that the investigation into non-finite clauses and their translation is justified, because in general non-finite clauses are used to express the majority (around 65%) of sub-ordinate relations in user manuals. The following part of the article therefore brings a brief insight into the ways non-finite structures, a feature Czech uses only in a limited extent, are translated into Czech.

2 Analysis of the translations

For the reason of the reliability of results and the limited amount of space we will only focus on the two most frequent categories, which both occurred in all the four manuals, and these are: infinitives of purpose and relative clauses.

The infinitive of purpose belongs among non-finite structures translations of which are often discussed and even criticized. Two references out of many are provided further. One is taken from Czech Style Guide [5] prepared by Microsoft with the aim to “provide everyone involved in the localization of Czech Microsoft products with Microsoft-specific linguistic guidelines and standard conventions that differ from or are more prescriptive than those found in language reference materials” [5, p. 5]. In the guide, the translation *Pro otevření souboru dvakrát klikněte na ikonu* of the English instruction *To open the file click the icon twice* is seen as an “anglicanism” and the correct recommended translation should be as follows: *Chcete-li otevřít soubor, dvakrát klikněte na jeho ikonu*. Although there are other drawbacks in the translation such as the missing translation of the definite article in the former suggestion, the main problem is the word for word translation of the infinitive of purpose, which is unnatural in Czech. The latter example comes from Dalibor and Pavel Behún [1, p 153]. In their handbook on correct Czech they write: “We will mention another bad habit which comes from English which is the use of Czech preposition *pro* to express purpose. Today this feature is not limited to translations and it appears also in texts originally written in

Czech. Perhaps the most typical example is the common conclusion of English materials – *To get more information, call ...* And therefore we are also often asked *Pro více informací volejte ...*².

2.1 The infinitive of purpose

What was therefore the situation regarding the translation of the infinitive of purpose in our text sample? First an overview for all the texts is presented in Table 2 below:

Tab. 2: *Summary of the translations of the infinitive of purpose*

	MAN. 1	MAN. 2	MAN. 3	MAN. 4
Pro + Noun	30	10	-	30
K + Noun	10	-	-	-
Při +Noun	-	10	-	-
Je nutno + infinitiv	-	10	-	-
Subordinate clause	-	20	1	40
Imperative mood	-	-	-	120
Indicative mood	-	-	-	130
Special construction	-	-	-	10

Source: prepared by the author based on the analysis of the texts

The results found in the four manuals confirm the assumptions and worries expressed in the two reference materials, mentioned at the beginning of this chapter. The translation of the infinitive of purpose by means of a preposition + noun is rather frequent and in two of the four manuals it represents the only way of translation. Let's, therefore, focus on a few concrete examples.

MAN1: *On the front panel there are led diodes to indicate presence of supply voltage and communication with a central unit CU2-01M. – Na předním panelu jednotky jsou LED diody, pro indikaci napájení a komunikaci s centrální jednotkou CU2-01M. To increase its mechanical immunity we recommend installation of the cable into an electro-installation conduit of a sufficient profile. – Pro zvýšení mechanické odolnosti kabelů doporučujeme vždy kabel instalovat do elektroinstalační trubky vhodného průměru. To supply system units, it is possible to use power supplies of ELKO EP PS-50/27. – K napájení jednotek systému je možné použít napájecí zdroje ELKO EP PS-50/27.*

MAN2: *To transport the collector, the use of carrying strap is recommended. – Pro přepravu kolektoru se doporučuje použít zvedací popruh. To tighten the union nuts, always balance (counter) the torque with a pipe wrench or another spanner. – Při dotahování šroubových spojů podržte protější díl šroubení plochým klíčem.*

MAN4: *Press FUNCTION button (10) to select “TUNER” mode. – Stiskněte tlačítko pro výběr funkcí (10) pro výběr režimu “TUNER”. Repeat step 2 to 5 to store other stations. – Opakujte krok 2 až 5 pro uložení jiných stanic.*

It is obvious that for the majority of selected examples, a more appropriate translation could be found, e.g. *LED diody umístěné na předním panelu signalizují stav napájení a komunikace s centrální jednotkou*, or *Režim “TUNER” zvolíte stiskem tlačítka pro výběr funkcí*. Mainly in the first example from MAN4, the double use of the preposition *pro* looks very

² Zmíníme se ještě o jednom nešvaru pocházejícím z angličtiny. Původně se asi objevil coby doslovný překlad. Dnes už se tento jev neomezuje jen na překlady a objevuje se i v textech vytvářených původně v češtině. Snad nejtypičtějším příkladem je běžné zakončení anglických materiálů: *Pro více informací volejte ...*

unprofessional. However, in certain situations we believe it is usable, e.g. in *Pro přepravu kolektoru se doporučuje použít zvedací popruh*, where any alternative translation will be more complicated and potentially less clear. In general, the translation by means of *pro* + noun is usually the briefest one out of the possible solutions, it often enables translators to follow the correct distribution of communicative dynamism – since logically it is useful to first state what (the aim of a concrete step) and only then to add how (the way leading to the aim). What is however most important, is that it no longer sounds so strange as it is often presented, and the preposition (mainly *pro* + noun) used to express purpose might be on the verge of entering standard Czech.

Another frequently used way of translation of the infinitive of purpose was just by means of an imperative or indicative mood of a verb.

MAN4: *Press memory button (9) to enable program state. – Stiskem tlačítka “paměti” spustíte program. Press FUNCTION button (10) to select “TUNER” mode. – Stiskem tlačítka pro výběr funkcí (10) zvolte režim “TUNER”.*

2.2 Non-finite relative clauses

The second common function of non-finite clauses we would like to discuss here briefly is the function of a relative clause. Table 3 below is summarizing the distribution of various translations of non-finite relative clauses found in the four manuals:

Tab. 3: Summary of the translations of the non-finite relative clauses

	MAN. 1	MAN. 2	MAN. 3	MAN. 4
Prep. + Noun	16	-	-	14
Adj.	-	17	-	16
Noun				14
Subordinate clause	-	19	15	31
Special construction	-	-	6	7

Source: prepared by the author based on the analysis of the texts

The most common translation was by means of a subordinate relative clause, which is the least surprising way and also the way which corresponds to Dušková's [7] findings mentioned earlier.

MAN2: *The collector must be installed so that rear ventilation for preventing the diffusion of moisture in the collector is guaranteed. – Kolektor se musí instalovat tak, aby bylo zaručeno zadní odvětrání, které zabrání rozptylu vlhkosti v kolektoru.*

MAN4: *The motor must be mounted on the rigid mounting with two M3 bolts screwed into the front plate. – Motor musí být spolehlivě upevněn dvěma šrouby M3, které zasahují do čela motoru.*

Another common translation is the translation by means of an adjective. It is again easily understandable and predictable since relative clauses, in the same way as adjectives, function as modifiers of noun phrases.

MAN2: *e.g. sacking membranes, as security against water penetration caused by wind pressure and driving snow. – např. izolaci proti vodě hnané větrem nebo sněhu ve vánici.*

MAN4: *which is displayed in order to inform listeners about the program service being broadcasted by the radio station. – který se zobrazuje, aby posluchače informoval o programové službě vysílané rozhlasovou stanicí.*

The last way of translation worth mentioning here is the translation by means of a preposition + noun.

MAN1: *While servicing, it is essential to observe safety regulations for working with electrical equipment. – Při údržbě je nutné dodržet bezpečnostní předpisy pro práci s elektrickým zařízením.*

MAN4: *Set the speed selector (32) to the proper position depending ON the type or record to be played. – Přepínač rychlosti otáček (32) a nastavte na správnou rychlost podle typu nahrávky k přehrání. It will indicate program no. and digits for track no. to be programmed. – Zobrazí se číslo programu a číslice k naprogramování čísla stopy.*

It was assumed at the beginning of this paper that one of the potential problems regarding translations of non-finite structures might be the use of word for word translation, regardless of the fact that in the area of non-finite structures we often deal with expressions which do not have any directly corresponding counterparts in Czech. The examples listed above, mainly the ones excerpted from MAN4, represent such problems. We are convinced that these translations represent even more serious deviation from standard or commonly used Czech than the above discussed *pro* + noun as a translation of the infinitive of purpose. The word to word translation in this area works only when there a genuine noun in Czech exists which directly corresponds to the -ing or infinitive form of a verb in English. This case is represented by the sample taken from MAN1. In the other cases there is no justification for the use of a solely for this purpose created de-verbal noun, because the non-finite predication can be easily translated by means of a relative clause, which is a natural means and which can be used at more or less the same position as the criticized de-verbal noun: *Přepínač rychlosti otáček (32) nastavte na správnou rychlost podle typu nahrávky, kterou chcete přehrát. Zobrazí se číslo programu a číslice, pomocí kterých můžete naprogramovat stopy.* No justification can therefore be sought in the functional sentence perspective (FSP) and generally, it would be difficult to provide any arguments why the word for word translation was used.

Conclusion

User manuals represent a type of text which frequently needs translation into a foreign language. For a number of translators this becomes a routine activity and they often fall back to a word for word translation. Based on the analysis of four user manuals originally written in English it has been found out that approximately 65 percent of the relation of subordination is expressed by means of non-finite clauses. This represents a significant part of each manual and therefore a feature which cannot be ignored. It is also significant that the proportion of non-finite structures was extremely similar for three out of the four manuals, with even much higher percentage in the remaining one. Since non-finite clauses are much less frequent in Czech than in English and since for certain non-finite expressions directly corresponding Czech expressions do not exist, it is clear that the area of non-finite clauses represents an area of potential difficulties for translators. The analysis of the translations used confirmed that certain non-finite structures really cause troubles. Based on the theory, it has been assumed that one of the most problematic areas will be the translation of the infinitive of purpose. Although in many cases a more appropriate translation could be suggested, in general there have not appeared any serious violations of standard Czech structure. The commonly criticized translation by means of a preposition (usually *pro*) + a noun appeared frequently. It

has, however, been argued that at least in certain cases it offers the briefest way of translation, which is important in manuals both because the content is easily accessible and also because there usually exist strict requirements regarding the graphical layout. The use of this way of translation moreover allows keeping the logical distribution of communicative dynamism. Surprisingly the most serious problems were found in the area of non-finite relative clauses where in addition to correctly formed translations by means of finite relative clauses and adjectives, also translations by means of a preposition + a noun were used. These were again caused by the word for word translation approach. However in these cases no justification could be found for the use of a structure which significantly deviates from the means of standard Czech.

Although user manuals represent a kind of text the value of which is mainly informative and not really artistic and they are considered consumables and are often approached like this by both readers and translator, with just a bit of effort they can (and should be) be written in correct standard Czech.

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POLOVĚTNÉ VAZBY V MANUÁLECH A JEJICH PŘEKLADY DO ČEŠTINY

Jedním z hlavních rozdílů mezi angličtinou a češtinou je fakt, že anglická věta je častěji kondenzována pomocí nominálních tvarů. Tento rozdíl logicky vede k potenciálním problémům v překladech. Na základě čtyř technických manuálů analyzuje tento příspěvek kvantitativní rozložení vedlejších vět a polovětných konstrukcí a způsoby, jakými se polovětné vazby překládají. Analýza ukazuje, že se často vyskytuje doslovný překlad, který ale nemusí být pro daný kontext tím nejlepším řešením. Největší problém představuje překlad anglického infinitivu účelu. Ovšem často obecně kritizovaný překlad pomocí předložky a podstatného jména nemusí být vždy považován za chybu, ale spíše za přirozený a nevyhnutelný vývoj jazyka.

HALBSYNTAKTISCHE EINHEITEN (REDUZIERTE NEBENSÄTZE) IN HANDBÜCHERN UND IHRE ÜBERSETZUNG INS TSCHECHISCHE

Einer der wichtigsten Unterschiede zwischen dem Englischen und dem Tschechischen ist die Tatsache, dass der englische Satz häufiger mit Hilfe von Nominalisierungsformen reduziert wird. Dieser Unterschied führt logischerweise zu potenziellen Problemen in Übersetzungen. Dieser Beitrag analysiert die quantitative Verteilung der Nebensätze und der sog. reduzierten Nebensätze sowie die Weise, wie diese halbsyntaktischen Einheiten übersetzt werden. Die Analyse wurde anhand von vier technischen Handbüchern durchgeführt. Aus der Analyse geht hervor, dass die wörtliche Übersetzung häufig dort auftritt, wo sie im gegebenen Zusammenhang nicht die beste Lösung sein muss. Das größte Problem stellt die Übersetzung des englischen „infinitive of purpose“, d.h. Zweckinfinitivs, dar. Jedoch die oft allgemein kritisierte Übersetzung mit Hilfe von Präposition und Substantiv muss nicht immer als Fehler betrachtet werden, sondern vielmehr als natürliche und unvermeidliche Entwicklung der Sprache.

ZWIĄZKI POLIPREDYKATYWNE W INSTRUKCJACH OBSŁUGI I ICH TŁUMACZENIE NA JĘZYK CZESKI

Jedną z głównych różnic między językiem angielskim i czeskim jest fakt, że zdanie angielskie częściej ulega kondensacji za pomocą form nominalizacyjnych. Różnica ta w sposób logiczny prowadzi do potencjalnych problemów w tłumaczeniach. W niniejszym artykule przeanalizowano ilościowy rozkład zdań pobocznych i konstrukcji polipredykatywnych oraz sposoby ich tłumaczenia. Analizę przeprowadzono na podstawie czterech technicznych instrukcji obsługi. Wyniki analizy pokazują, że wielokrotnie występuje tłumaczenie dosłowne, które w danym kontekście nie musi być najlepszym rozwiązaniem. Największym problemem jest tłumaczenie angielskiego bezokolicznika celu. Jednak często powszechnie krytykowanego tłumaczenia za pomocą przyimka i rzeczownika nie należy zawsze uważać za błąd, lecz raczej za naturalną i nieuniknioną ewolucję języka.

WHAT ARE THE ADVANTAGES OF INTERNET SHOPPING AS PERCEIVED BY CUSTOMERS?

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Abstract

Transactions realized with the usage of the Internet are regarded as more efficient both for sellers and customers. The benefits of the Internet exchange are presented with respect to their importance for the national economy as well as for consumers. This paper looks at the most important advantages of the Internet shopping and specifies them in comparison with traditional shopping. Based on a large survey, the perceived advantages are analyzed and compared, primarily among all customers and then among those customers who intend to increase and those who intend to reduce their purchases via the Internet. Thus, some theoretical and practical implications can be derived from this survey.

Introduction

There are many different definitions of e-business as well as related terms such as: Internet business, Internet commerce, network economy, and electronic commerce. For this article, a relatively broad definition of e-business has been chosen: the conduct of business with the assistance of telecommunication and telecommunication-based tools [3].

As the volume of business transacted over the web increases, at the same time, the value of goods, services, and information exchanged over the Internet seems to double or triple each year around the globe.

This fact enables companies to increase their efficiency with respect to business transaction processing. The question remains as to how the benefits of the Internet shopping are perceived by customers, wherein the potential of the Internet shopping lies and to where the effort of e-commerce improving should be directed. This paper provides some answers and also offers some recommendations.

1 General advantages of e-commerce

Undoubtedly, e-commerce stimulates economies by giving sellers the benefits of lower distribution and production costs, and hence the ability to transact with customers at lower prices [2]. Not only cost advantages, but also many other benefits result for the customers from e-commerce.

1.1 Importance for the economy

E-commerce has the potential to radically support and alter economic activities and the social environment [7]. It has redefined the way business is conducted by replacing the traditional intermediary functions, developing new products, and penetrating new marketplaces [5].

E-commerce has a positive effect on all economies, contributing to the mutually supportive goals of sustainable economic growth, enhancing the public welfare, and fostering social cohesion [4]. The available literature pertaining to business and economics indicates that e-

commerce provides an opportunity to increase revenue, streamline operations, and lower the costs. In turn, these consequences stimulate strong economic growth [7].

In addition, e-commerce redefines the rules of doing business by reducing transaction inefficiencies, reducing costs, and lowering barriers to entry. Businesses around the world have implemented a number of technologies and applications to use the commercialization of the Internet effectively [4]. The primary way that e-commerce has affected economies in general, is through its impact on productivity [12].

1.2 Importance for customers

Consumer purchasing decisions in e-commerce mainly depend on individual evaluations of the value of products or services offered [11]. In the B2C area, consumers will engage in Internet commerce when they perceive that they are getting a better deal [1]. Keeney [6] used a value proposition of e-commerce to represent consumer evaluations, defining it as the net value of the benefits and costs associated with the transacted products or services in the processing of finding, ordering and receiving, including the advantage for customer exploration. E-commerce lets consumers place digital orders remotely, thereby helping them to find goods more cheaply and saving them time in realizing the transactions [12].

Many benefits of internet shopping for customers have been identified in literature. Some of them are common for consumers worldwide and some are perceived in a different way. That is why the research and the subsequent implementation thereof should be carried out within the culture and a territory, although the general trend for the Internet market is that of globalization.

2 Methodology

A review of the available literature was conducted in order to capture the entire complexity of the Internet shopping. Thereupon, qualitative research was carried out. Firstly, two sessions with focus groups were organized in which the perceived advantages of the Internet shopping were discussed. Based on this, in terms of quantitative research, 11 statements concerning the advantages of Internet shopping in comparison to traditional shopping were formulated and one open question or “other” was added (including space for such a formulation). All questions examining the intensity of the perceived advantage were constructed on the Likert scale (the choice of 1-5).

The community of people realizing their purchases via the Internet (aged 15 and over) differs from the general population of the Czech Republic. Based on secondary data [8] where “Internet shoppers population” was described, the basic set of population for this research was modified (higher education achieved, lower age, higher income and higher share of students). These attributes also served as control quotas for data collection control. Since these criteria (and additional verification that the respondent realizes min. of one purchase via the Internet per year) the non-random selection of respondents needed to be kept. As mentioned, the quota sampling method was chosen for respondent sample creation as an appropriate method for this kind of research [10].

The questionnaire was placed on a web site and the link was distributed in the Czech Republic to people having experience with the Internet shopping (taking into account the required quotas). The total number of valid questionnaires is 503.

The data was processed by non-parametrical tests as not all conditions for parametrical test were fulfilled. Data testing and processing was carried out on 5% level of statistical significance with the usage of statistical software IBM Basic SPSS.

There are two research objectives: firstly, to determine the most important advantages perceived by Internet shop customers. The second task is to identify the most essential advantages for the future. The second objective was derived from an examination of those who intend to increase their shopping volume via the Internet in the coming year.

3 Situation in Internet shopping in the Czech Republic, Germany and Poland

Even though not every Internet user can be automatically regarded as an Internet shopper, the indicator of Internet users is widely used for the evaluation of the number of people engaged (actually or potentially) in Internet shopping.

Tab. 1: Overview concerning Internet usage in comparison between the CR, Germany and Poland

	Czech Republic	Germany	Poland
Population	10,190,213	81,471,834	38,441,588
Internet users	7,220,732	67,364,898	23,852,486
Penetration	70.9%	82.7%	62.0%
% of Users in Europe	1.4%	13.5%	4.8%

Source: [9]

As shown in Table 1, the highest penetration of Internet usage is in Germany (83% of the population has access to Internet), while in Poland it is only 62%. All together the Czech Republic, Germany and Poland comprise 19.7% of Internet users in Europe.

4 Findings surrounding the research in the Czech Republic

The findings were derived from a differing respondent base for data processing. Firstly, the data from all respondents was processed and then some individual groups were examined.

4.1 All current customers

The perceived advantages are ordered according to the strongest perception based on means (1-strongly agree). In the last column the percentage of the totally agree statement is displayed (1-strongly agree + 2-somewhat agree). It depends on the distribution of opinions (1-5) and almost corresponds with the results and was derived by means of comparison. According to those who totally agreed, the advantage of “References of other shoppers are at our disposal” should be three places higher.

As displayed in Table 2, the two most important advantages of Internet shopping in comparison to traditional shopping are home comfort and the possibility to shop anytime.

Czech customers also prefer Internet shops to traditional ones due to cheaper goods, enough time and space to reach a decision concerning the purchase, a better choice of goods, saving time, references from other purchases, etc.

One open question regarding the additional advantages was at our disposal and the answers are marginal but concern issues such as the possibility to compare prices, the possibility to purchase goods from other cities and countries, better accessibility, home delivery, etc.

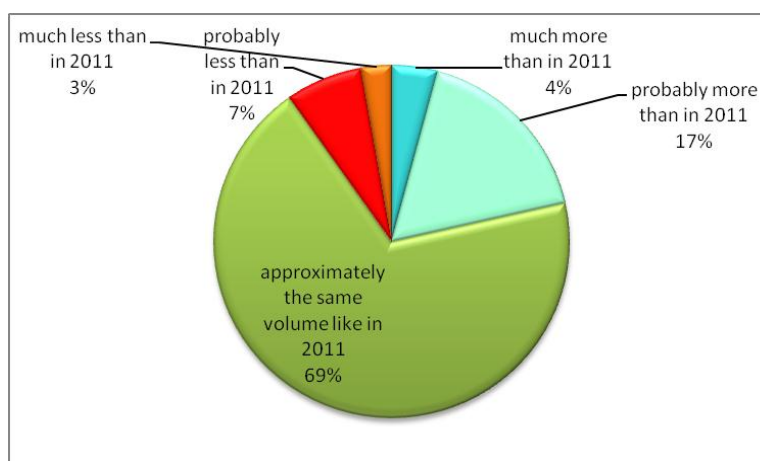
Tab. 2: Perceived advantages (stated in the questionnaire of the survey)

Advantages (statements)	Valid	Mean	Variance	Cumulative %
Home comforts while shopping	503	1.42	0.531	90.1
Possibility to shop anytime	503	1.44	0.530	89.9
Cheaper goods	503	1.71	0.692	81.7
Unlimited decision making	503	1.84	0.834	76.5
Better choice of goods	503	1.85	0.751	73.4
Time saving	503	1.90	0.973	71.2
References of other shoppers are at our disposal	503	1.92	0.752	77.7
Resistance to shop assistant influence	503	2.21	1.003	59.8
The obligation of refunding within 14 days	503	2.34	0.919	54.3
Energy savings	503	2.35	1.181	49.7
No necessity for personal attendance	503	2.58	1.232	40.4

Source: own calculation

4.2 4.2 Customers' plans to purchase on the Internet in future

Respondents were clustered into group one – with their response “much more” and “probably more” and group two with “probably less” and “much less”. Those customers intending to make purchases next year approximately in the same volume as the previous year were not examined in this part of the data processing. The grouping is displayed in Fig. 1:



Source: Own construction

Fig. 1: Structure of respondents according to their intention to increase-decrease their purchases via the Internet next year

To present the structure from the point of view of intentions in more detail, only 4.1% of respondents are certain to increase their purchases realized via Internet next year. However, together with those who regard an increase as highly probable, they constitute one fourth of all respondents. In summary, customers who will purchase in the same volume we are talking about a substantial portion of the 90% of respondents. Only 10% will (probably or surely) make their purchases via Internet at a lower level of volume.

Tab. 3: *Table 3: Intentions in Internet purchases for next year*

Plans for purchasing next year	Frequency	Percent	Cumulative %
Much more than in 2011	21	4.1	4.1
Probably more than in 2011	87	17.3	21.4
Approximately the same volume as in 2011	346	68.8	90.2
Probably less than in 2011	35	7.0	97.2
Much less than in 2011	14	2.8	100.0
Total	503	100.0	

Source: Own calculation

In order to understand the perceived advantages of Internet shopping, the examinations on differences between the above described groups were conducted.

4.3 Customers intending to increase and decrease their Internet purchases

In the next step, the differences on perceived advantages of Internet shopping between two groups were examined. Based on a question relating to respondents' plans with regard to the Internet shopping, a group of those who intend to increase the amount spent on purchases realized via the Internet was derived (108 respondents) and also a group of those who plan to decrease their Internet shopping was created (49 respondents). Respondents planning to realize their purchases in the same volume were not included in this data processing.

All the 11 original statements on perceived advantages of the Internet shopping were evaluated within the group and then tested on assessing the significance of the differences between the two groups. Testing was conducted on 5% level of significance. Table 4 presents only the statements where statistically significant differences were verified.

Tab. 4: *Test of some differences between those who intend to increase and those who intend to decrease their Internet purchases next year*

Hypothesis Test Summary	Test	Sig.	Decision
The medians of Cheaper goods are the same across categories of Plans	Independent-Samples Median Test	0.025	Reject the null hypothesis
The medians of Unlimited decision making are the same across categories of Plans	Independent-Samples Median Test	0.004	Reject the null hypothesis

Source: Own calculation (SPSS)

The verified differences between customers intending to increase and decrease their Internet purchases were revealed as a result. The test was based on a null hypothesis of no differences. The perception of 2 of 11 statements differs within these groups as displayed in Table 5.

Tab. 5: *Comparison of customers planning to decrease and increase their Internet purchases*

	Means	
	Plan to purchase more	Plan to purchase less
Cheaper goods	1.69	2.02
Unlimited decision making	1.87	1.54

Source: Own calculation

Customers who plan to increase their purchases realized by the Internet are significantly different in their perception of price and regard that as a much more important reason for the Internet shopping than those who plan to decrease their Internet purchases. The second significant difference is in appreciating the unlimited possibility for decision making whereby shoppers planning to increase their purchases are not so sensitive to this advantage.

Conclusion

One of the research objectives was to identify the most important advantages of the Internet shopping as perceived by the customers. The two most important advantages of Internet shopping perceived by all respondents identically are: “Home comfort while shopping” and “the possibility to shop anytime”. Czech customers stipulate lower prices as the third most important benefit of the Internet shopping. They also prefer not to be disturbed by a shop assistant, not to be under time pressure and prefer to be a long way from other factors influencing their shopping, as well as their decision making.

These advantages are followed by the perceived benefit of a better choice of goods (larger assortment) and time saving. The next advantage is the possibility to see references from other shoppers. The survey in its qualitative part also revealed that references would be much more desirable if they were more readily available and reliable (trustworthy).

Examination of differences of perceived advantages of the Internet shopping results in the finding that customers planning to increase their Internet purchase volumes differ in appreciating the issue of price of offered goods. Customers intending to decrease their purchases via the Internet are much more addressed by the issue of “unlimited decision making”. That might be an important factor to attract such customers for the Internet shopping.

With regard to a recommendation for Internet shop providers, the survey revealed the customers’ focus on price among those who intended to increase their Internet purchases. Since 90% of the respondents expressed their interest in the Internet shopping, next year at least at the same level of volume as currently, a much closer examination of the perceived advantages has become an important marketing task.

Acknowledgements

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JAKÉ VÝHODY INTERNETOVÉHO NAKUPOVÁNÍ VNÍMAJÍ ZÁKAZNÍCI?

Transakce uskutečňované prostřednictvím internetu jsou označovány za efektivnější, a to jak pro prodávající, tak kupující. Výhody směny uskutečněné prostřednictvím internetu jsou pojímány jako přínos pro národní ekonomiku i spotřebitele. Tento příspěvek se zabývá identifikováním nejdůležitějších výhod plynoucích z internetového nakupování. Je založen na rozsáhlém výzkumném šetření a zákaznicky vnímané výhody jsou analyzovány a srovnávány, konkrétně mezi těmi zákazníky, kteří mají v úmyslu své nákupy přes internet zvyšovat a snižovat. Z toho jsou pak vyvozeny některé teoretické závěry i praktické implikace.

WAS FÜR VORTEILE DES INTERNETEINKAUFES SEHEN DIE KUNDEN?

Im Internet durchgeführte Transaktionen werden als effektiver bezeichnet, und das sowohl für den Verkäufer als auch für den Käufer. Die im Internet getätigten Tauschergebnisse werden als Beitrag für die nationale Ökonomie und den Verbraucher aufgefasst. Dieser Beitrag befasst sich mit der Identifizierung der wichtigsten Vorteile, die sich aus dem Interneteinkauf ergeben. Er basiert auf einer umfangreichen Untersuchung, wobei die von den Kunden wahrgenommenen Vorteile analysiert und verglichen werden, vornehmlich in Hinblick auf diejenigen Kunden, welche sich mit der Absicht tragen, häufiger bzw. seltener im Internet einzukaufen. Daraus werden dann einige theoretische Schlüsse gezogen und auch praktische Implikationen abgeleitet.

JAKIE KORZYŚCI WIDZĄ KLIENCI W ZAKUPACH DOKONYWANYCH PRZEZ INTERNET?

Transakcje przeprowadzane za pośrednictwem internetu są postrzegane jako efektywniejsze zarówno przez sprzedających, jak i kupujących. Zalety zamiany dokonywanej przez internet są uważane za korzystne dla gospodarki krajowej i konsumentów. W niniejszym artykule zidentyfikowano najważniejsze zalety wynikające z zakupów dokonywanych przez internet. Oparty jest on na szerokich badaniach a zalety postrzegane przez klientów poddano analizie i porównaniu pod względem klientów, którzy zamierzają swoje zakupy internetowe ograniczać lub zwiększać. Na bazie przeprowadzonej analizy i porównania sformułowano niektóre teoretyczne wnioski oraz praktyczne implikacje

IDENTIFICATION OF VARIABLES THAT INFLUENCE SATISFACTION WITH COMMUNICATION OF COMPANIES VIA SOCIAL MEDIA

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Abstract

This paper interprets the results of primary research, conducted by members of the Department of Marketing, Faculty of Economics, Technical University of Liberec. The research concerned new forms of communication through social media. The investigation was focused on the users of this communication intermediate. The qualitative method of data collection was used, followed by analysis of the obtained data.

The research results are useful for companies that are trying to communicate with consumers via social media. Based on the research, variables that most affect communication are identified. The result of the project provides guidance to companies on how to reach potential customers.

Introduction

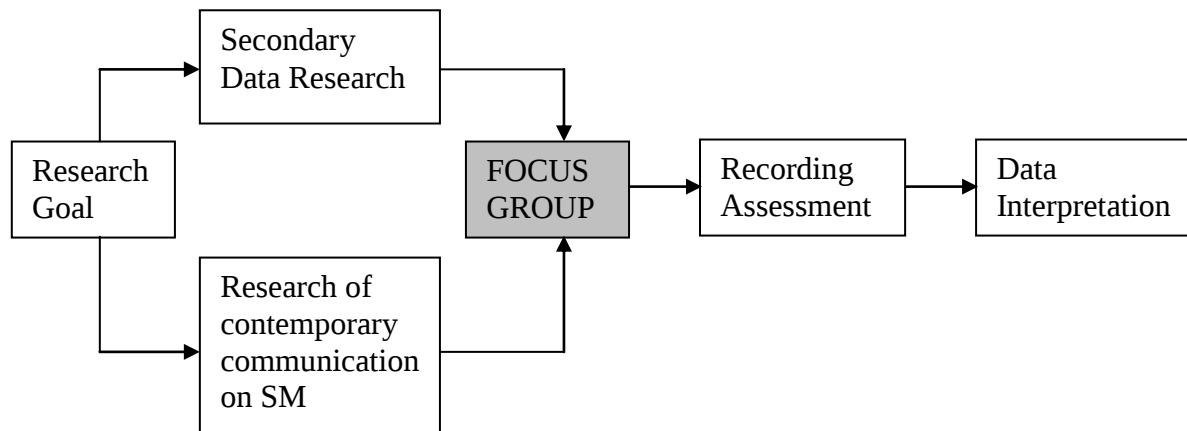
Communication of companies on social networks is very engaging, and so far an unexplored progressively growing area of marketing with ever increasing number of users. Given the increasing number of different social media, there is much uncertainty about how companies should handle communication with the customer. This communication channel is used by millions of potential customers who spend hours on social networks. Many companies feel that social networks are an innovative communication channel with great potential. Majority of companies often give social networks a try, but leave them after a while because of the lack of special information. [1]

The original reason for the research is the current lack of information about how to use social media in communication with customers. The asset of the research was to fill information gaps in communication through social media.

The aim of the whole project was to determine the most important variables that most affect the current satisfaction or dissatisfaction with corporate communications. This goal was determined by mapping the current situation in communication between consumers and companies. A quantitative method of data collection “dual group interview” was chosen and applied to several homogeneous groups of social media users.

1 Conceptual Framework of Research

The basis of the work consists of conceptual framework which is shown in Figure 1. The conceptual framework is composed in order to identify the attributes that affect communication of companies with consumers.



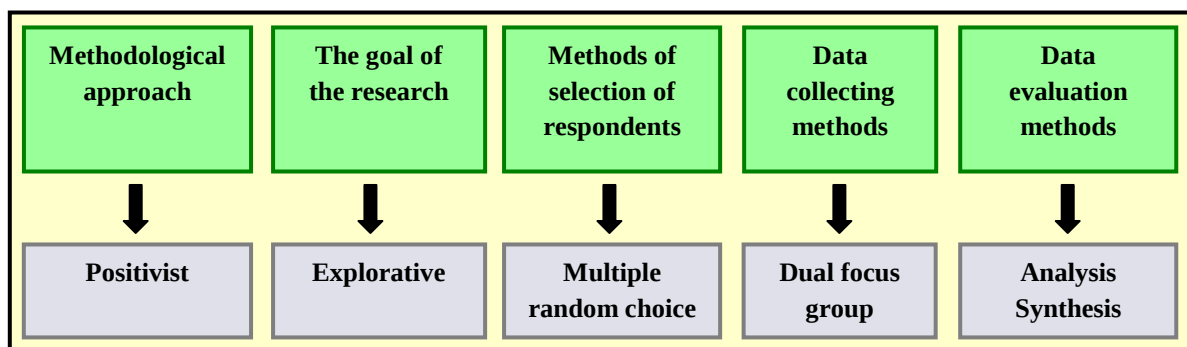
Source: own processing

Fig. 1: Concept of research

The top of the conceptual framework consists of defining the problem. The issue is elaborated in the main objective, which is to identify variables affecting communication in social media. The definition of objectives is followed by the second, preparatory stage, which is composed of two parallel parts. The preparatory phase aims at getting familiar, and in detail, with the problems of communication carried out on social media. The first part can be characterized as a secondary data survey, which means searching for existing research dealing with similar issues. The second preparatory part consists of analysis of the current communication via social media. This is made by practical analysis of successful and unsuccessful companies that use this communication. The third stage is the primary research, which is the crucial part of the project, preceded by the moderator's thorough preparation and proper recording equipment. An integral part of it is securing an adequate sample of social media users. The fourth step is to evaluate the records taken from the group interview, in which experienced professionals are involved. The last stage is the interpretation of the data in the form of the final report.

2 Research Methodology

The core group of the research were 13 - 70-year old respondents, citizens of the Czech Republic, who are users of social media. Boundary of the age of 13 was derived from legal access to the largest social network Facebook. Research methodology is reported in Figure 2.



Source: own processing

Fig. 2: The research process

- **The methodological approach** – in terms of methodological approach, positivist approach using quantitative methods of data collection has been applied in the research.
- **The purpose of the research** – with regard to the objective, the purpose of the project can be determined as an exploratory one, looking for variables that affect consumers' satisfaction with communication on social media.
- **Methods of selection of respondents** – respondents' selection was made by random multiplier, and they were further divided into five groups based on a demographic character - age.
- **The method of data collection** – in the project the method of “dual group interview” was used. It implies more moderators to ensure continuity. This method was carried out five times, always with a different structure from 6 to 10 participants. The number of the group interview respondents was 45. Age groups were internally homogeneous and intergroup heterogeneous due to possible inter-group differences in perceptions of communication examined. Respondents in the introductory part of the interview had not been given a choice of predefined variables, to secure their unbiased view. In the end, however, there was an offer of possible variables assembled by secondary research and experience of experts.
- **The method of data evaluation** – dual group interview was the major part of the project, which led to the identification of variables that mostly influence communication through social media. The outputs of group discussions were subjected to special analysis with the participation of a psychologist. After the complete analysis of the course of study the final synthesis was performed, which led to the fulfillment of our goal. [2]

The process of evaluating the obtained data was the following:

1. Selection of records of particular age groups.
2. Slow re-playing and analyzing records.
3. Comparison of written records, which were acquired parallelly.
4. Assembling five independent groups of variables which are recorded in the table.
5. Synthesis of the variables in the final model of the most important factors that affect communication in social media.

3 The process of identifying variables affecting communication

Identification of variables in social media communication is – because of its topic – a unique marketing research. According to available information it has no equivalent in the Czech Republic. Yet in terms of setting the research process it is necessary to follow certain procedures. At the beginning the whole procedure was divided into two parts. The first, preparatory stage, which consisted of defining the problems, the approximate analysis and planning of the research project, was more important than the data collection itself. This was due to pressure on the organization of the research, time and financial planning. The second stage is the actual data collection, processing and evaluation.

3.1 Defining problems and objectives

Social media are now becoming an important communication channel in all countries with free Internet access. In the Czech Republic there are currently over 3.6 million people¹ only

¹ <http://www.socialbakers.com>, Total Facebook Users:3,611,000, (31.5.2012)

on the largest social network Facebook. Worldwide, there are about 850 million people² on Facebook. However, social networks are not only represented by Facebook, but there are many international and local networks, which are constantly coming into existence and disappearing after a while. For example, the largest Asian network of “QQ” has over 600 million users. These huge numbers are a good reason for companies to consider the use of these channels to reach consumers and to establish or maintain contacts. Social media³ (social networks) are among the fastest growing forms of Internet marketing, and each day more and more Internet users join them. Given the increasing number of different social media, there is much uncertainty about how vendors should be approaching them to create competitive advantage and increase sales.

The aim of this work is based on primary research to identify the unknown variables that affect satisfaction or dissatisfaction with the behavior of companies on social media.

3.2 Approximate analysis of the situation

On the one hand, there are generally many publications dealing with the issue of marketing communications. For the connection between consumers and companies there are created communication models that analyze this relationship very closely. On the other hand, there are no detailed models of communication that would use social media communication.

Social media are online media where the content is created and shared by users. The media are constantly changing along with their changing (increasing) contents, as well as adding many functions. On social media marketers can find directly what customers want, what their opinion on a brand or a company is and what they are complaining about. Social media are a place with "collective wisdom", where the view created on a particular product is mostly true. Therefore, they are more popular and trustworthy than traditional media. People have almost ceased to believe advertising campaigns, and companies cannot help getting engaged in social media. Extensive problems in social media marketing can discourage many people. It is ideal to start with one activity such as blogs, and later, after finding sufficient amount of information, broaden and intensify the activities. The reason for presenting on social media is often spreading awareness about the company and its offer at minimal cost. [3]

For many people the term social media is represented by Facebook, which is clearly dominant in the CR. However, under this name can be included many other resources:

- Blogs, video blogs, microblogs (Twitter)
- Social networks (Facebook, MySpace, LinkedIn, Google +)
- Wikis (Wikipedia, Google Knol)
- Social bookmark systems (Digg, Delicious, Jaggi)
- Shared Multimedia (YouTube, Flickr)
- Virtual worlds (Second Life, The Sims)
- Discussion forums, QaA portals (Yahoo! Answers)

3.3 Plan for data collection

The plan was modified according to research objectives and methods of data collection to adequately secure the required information. The plan determined the whole course of practical investigation, staffing and time distribution. The data collection plan gave the answer to the questions of when, where, who and whom the research concerned.

² <http://www.socialbakers.com>, Worldwide Facebook User 847, 573, 840, (31.5.2012)

³ *Social network*, is an interconnected group of people, a community communicating most often via the Internet.

Group interviews were carried out in two days, the first day with two groups and the next day with three groups. The number of participants was in accordance with the principles set from 7 to 11 people. The approximate length of the interview was based on the number of queries per hour. The place for collecting information was provided with regard to the presentation and especially the possibility of recording conversations. For the purpose of the research a research team was set up, which consisted of five people. The debates were led by a moderator, asking questions that properly developed the issue. The other two team members encouraged debates expressing their opinions and suggestions for possible solutions. They supported the other two members by recording of the interviews and operating suitable equipment. Each of the five groups in Table 1 represented 20% of users of social networks.

Tab. 1: *Division of the group interview into groups by age*

Focus group	Group A (20%)	Group B (20%)	Group C (20%)	Group D (20%)	Group E (20%)
Age	13 – 19	20 – 24	25 – 29	30 – 39	40 plus

Source: own processing

3.4 Data Collection

Before the start of the dual group interview there had been a thorough preparation. It consisted of staging problems of communication in social media. Another important part of the preparation was creating scenarios for group discussion and materials for screen projection presentation. A serious problem, however, was to ensure appropriate respondents. Participants were divided into groups by age and also had to be active users of social media. Active user is a person who participates on creating the content of a social media.

The scenario for a group interview was composed of five parts:

1. **Presentation of the team and respondents** – mutual acquaintance for “breaking the ice”.
2. **Introduction** – in this part the respondents were informed about the rules of the group interview. At the same time the issue of communication through social media was presented. The moderator asked the first question (*What do you think social media are? What do you think of the term “social media”?*). Respondents were acquainted with the main characteristics of social media. To clarify any discrepancies, audiences were encouraged to ask questions.
3. **Discussion supported by questions** – this longest part of the group interview was also the most important one. Answers to the objectives should have arisen from this discussion. The consequence of questions was designed to draw as many respondents as possible to the problem. The sequence from the important to utmost important questions was as follows:
 - *What is your main reason for using social media?*
 - *Will your opinion on products, services or companies influence other users of social media?*
 - *Which activities do you most often use in social media in relation with the firms and companies for?*
 - *What products, services or companies do you recall as successful in communicating with you on social media? How did they attract you?*
 - *What are you influenced by when communicating with companies?*
 - *How do you want companies to provide you with information?*
 - *What should the content of enterprise information provided on social media be?*

In each group the sequence of questions had a slightly different course. Some groups' conversations needed to be encouraged by thought-provoking stimuli. Sometimes, on the other hand, it was necessary to inhibit some participants and let those shy ones speak.

4. **Written responses** – following the assumption that in certain age groups the group interview might not be sufficiently informative, written questions were included at the end. These questions offered a range of possible answers. The respondents should have indicated the importance of each proposed variables according to their own experiences with social media communication. These variables were derived from secondary research by the members of the research team.
5. **A final thank you** – at the end the moderator thanked the participants on behalf of the whole team and invited them for refreshments, where he also conducted an informal discussion about the topic.

3.5 Evaluation of the data

The correct processing of qualitative research was emphasized. The results of so conducted interviews can be evaluated by different methods and thus with different results. The research team, which participated in the evaluation of the project, consisted of experts in social media, marketing, and a psychologist.

Records of respondents' answers were compared and put into homogenous groups. Bases on synthesis, these variables, influencing communication on social nets, were formed. The final variables affecting communication on social media are shown in Table 2.

Tab. 2: *The final variables affecting communication on social media*

1. Speed of response to my question
2. Individual approach of the company
3. On-line company communication all day long
4. Regular updates of information
5. The veracity of the information provided
6. Clarity of information provided
7. Humorous form of information
8. Expertise of provided information
9. Lotteries, contests, coupons from companies to social media
10. Dealing with complaints
11. Obtaining information to social media through advertising
12. Index of corporate information to social media
13. The way of providing information to social media
14. Presentation in Czech
15. Social responsibility of companies (environment, ethics)
16. Supporting non-profit events (cultural, sports)
17. Link to company web site
18. Getting only the information requested
19. Obtaining full and complete information
20. Communication through forums (chat)

Source: own processing

Conclusion

Communication through social media is by its nature a complex concept. On one side of the market there is a company which is trying to reach customers through channels. The market in which they operate, is constantly sharpening, the competition is intense, leading to a stronger effort to communicate with the consumer. On the opposite side there are customers with their expectations, needs and requirements that differ from individual to individual. To obtain information they increasingly use new channels of communication from the comfort of their homes. Most progressively growing of these channels in the last five years are social media. Firms seek profit, while satisfying customers in their wishes and needs. The question is how to find a common solution which is acceptable and suitable for both parties. Finding the solution for the connection of these two subjects has been defined in the above-mentioned variables. [4], [5]

The aim of this research was to identify important factors that affect communication in social media. This relatively difficult target has been met through qualitative research using dual group interview. The obtained variables can be of great help to companies seeking to use social media. With the help of this research companies will get to know the factors that are most important to consumers. Provided only one of the surveyed age groups is the target one, the company can modify the method of communication according to the identified variables.

The research results are a useful source of information for companies looking to reach their potential customers. It is up to them how they can use this opportunity to fight competition. Social media cannot be just a single channel of communication for companies, but they should become a full part of modern business communication mixture of the 21st century.

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IDENTIFIKACE PROMĚNNÝCH, KTERÉ OVLIVŇUJÍ SPOKOJENOST FIREM, POMOCÍ SOCIÁLNÍCH MÉDIÍ

Tento příspěvek interpretuje výsledky primárního výzkumu, který byl proveden členy katedry marketingu, ekonomické fakulty, Technické univerzity Liberec. Výzkum se týkal nové formy komunikace prostřednictvím sociálních médií. Šetření bylo zaměřeno na uživatele tohoto komunikačního mezikládku. Použita byla kvalitativní metoda sběru dat, následovala analýza získaných dat.

Výsledky bádání jsou využitelné pro firmy, které se snaží komunikovat se spotřebiteli pomocí sociálních médií. Na základě výzkumu jsou identifikovány proměnné, které komunikaci nejvíce ovlivňují. Výsledek celého projektu poskytuje firmám návod, jakým způsobem potencionální zákazníky oslovit.

DIE IDENTIFIKATION VON VARIABLEN, WELCHE DIE ZUFRIEDENHEIT MIT DER KOMMUNIKATION VON FIRMEN DURCH SOZIALE MEDIEN BEEINFLUSSEN

Dieser Beitrag präsentiert die Ergebnisse einer Untersuchung, welche von Mitgliedern des Lehrstuhls für Marketing an der Fakultät für Ökonomie der TUL durchgeführt wurde. Die Untersuchung betraf neue Formen der Kommunikation durch soziale Medien und konzentrierte sich auf die Nutzer dieser Kommunikationsart. Es wurde eine qualitative Methode der Datensammlung angewendet. Hernach wurden die gewonnenen Daten analysiert.

Die Untersuchungsergebnisse sind brauchbar für Unternehmen, die mit ihren Kunden durch soziale Medien kommunizieren. Ausgehend von dieser Untersuchung werden Variable identifiziert, die die Kommunikation am meisten betreffen. Das Untersuchungsergebnis gibt Firmen Anregungen, wie sie potenzielle Kunden erreichen können.

IDENTYFIKACJA ZMIENNYCH WPŁYWAJĄCYCH NA ZADOWOLENIE FIRM KORZYSTAJĄCYCH Z MEDIÓW SPOŁECZNOŚCIOWYCH

Niniejszy artykuł przedstawia wyniki badań przeprowadzonych przez pracowników Katedry Marketingu Wydziału Ekonomii Uniwersytetu Technicznego w Libercu. Badania dotyczyły nowej formy komunikacji prowadzonej za pośrednictwem mediów społecznościowych. Ukierunkowane były na użytkowników tego kanału komunikacji. Zastosowano jakościową metodę gromadzenia danych a następnie poddano je analizie.

Wyniki przeprowadzonych badań są przydatne dla firm, które komunikują się z konsumentami przy pomocy mediów społecznościowych. Na podstawie badań określono zmienne najbardziej wpływające na komunikację. Wyniki całego projektu stanowią dla firm wskazówkę co do sposobu zwracania się do potencjalnych klientów.

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