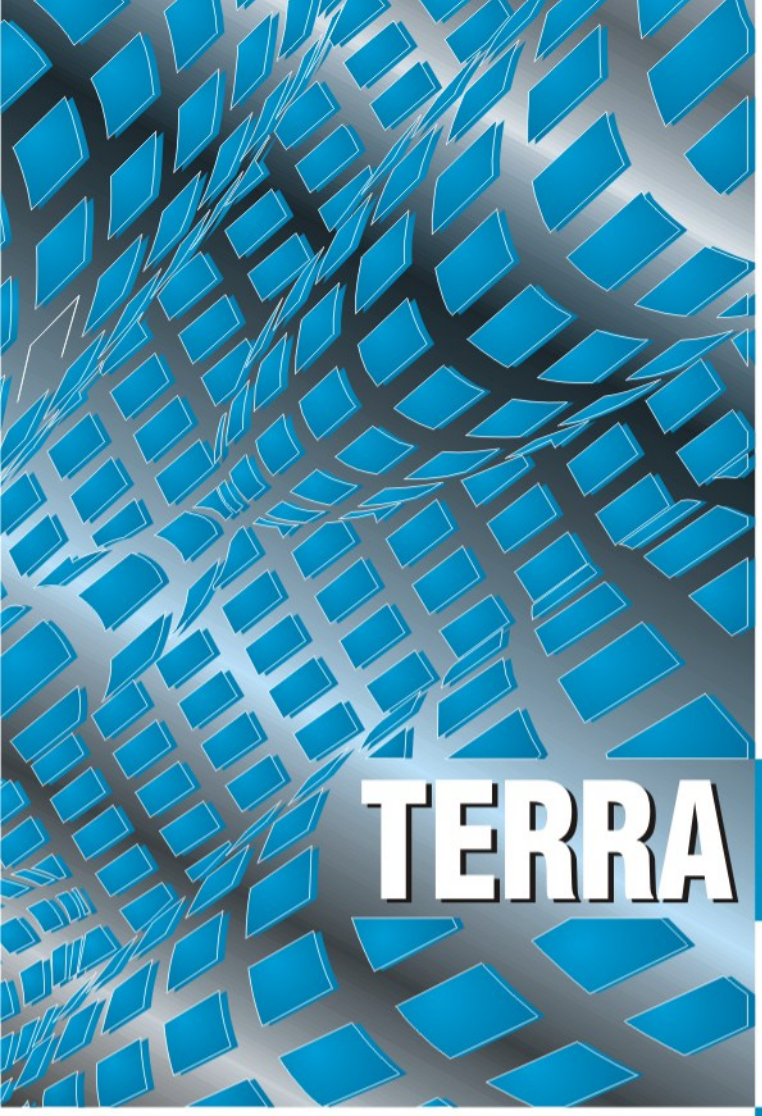

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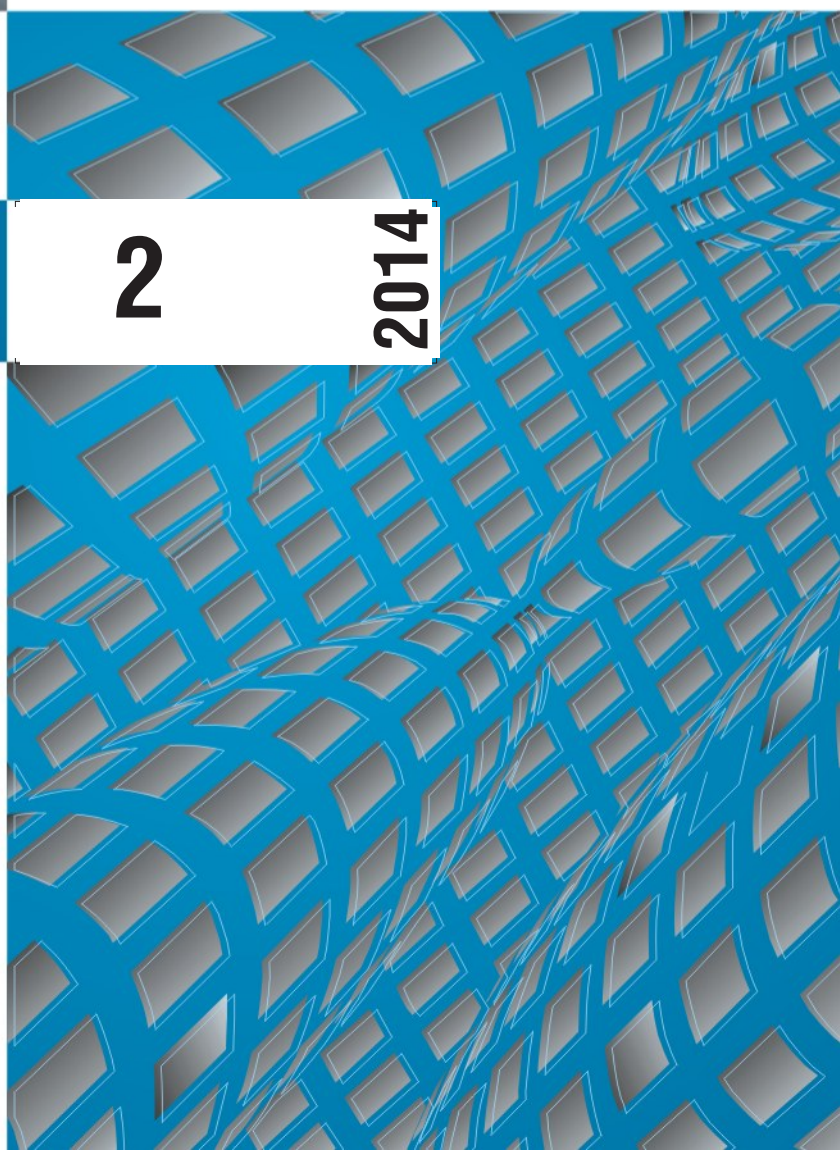

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FOREWORD

I am honored to present you the new issue of TERRA SPECTRA, which is aimed at issues of the real estate market. Real estate market affects final consumption as well as the real economy and it is the result of several sectors and activities through movement in real estate prices. Properties are considered as significant investment asset, which encourages the development of the construction sector, increase employment and demand in the real estate sectors. Real estates and labor should be considered as important economic factors. Performance of the economy is inextricably linked to the adequate offer of land, apartments, office spaces at reasonable price, which is a good prerequisite for the mobility of the population, and thus faster transfer of labor to work. On the other hand, high real estate prices and rents discourage investors from the business and reduce the competitiveness of domestic enterprises due to high costs.

A functioning property market also creates conditions to exploit the potential area for business development, new technologies and approaches as well as innovations in the sphere of financial instruments etc. It is also a prerequisite for successful investment for development companies and people. Knowledge of the characteristic traits and patterns of the real estate market contributes to acceptation of rational economic decisions, both at business and macroeconomic level. In view of the various transactions in the real estate market, it is also necessary to know the basic factors that affect it. Those are the price of real estate, the impact of state legislative measures to increase resp. to reduce the accessibility of financial resources. Listed knowledge is a prerequisite for successful business of banks, insurance companies and all other entities handling the real estate portfolio.

Real estates affect the life of towns and cities, inform us about the architecture of the given period and survive several generations. Real estate market and its activities are closely intertwined with the main focus of this journal - the issue of spatial planning, spatial development and environmental policy. Only a few scientific and professional journals in Slovakia currently deal with the issue of the real estate market. For this reason, we are trying to devote to this matter at least one issue of TERRA SPECTRA a year.

Published contributions focus on the real estate industry's current problems, such as question of rental housing, legislative aspects of residential building renovation, determinants of quality construction, sourcing funding for new investment projects, sustainable development of built environment, protection of public interests in construction process, etc. with which they try to contribute to a better understanding of this issue.

Daniela Špirková
Guarantor of issue

Peter Červenák

DETERMINANTS OF QUALITY CONSTRUCTION IN SLOVAKIA

Introduction

High energy consumption of housing stock in Slovakia in connection with the expected continuously rising energy prices, global aspects of environmental policy regarding to modern society, menacing climate change, the gradual depletion of traditional energy sources and the failure rate of existing buildings, incites professional and general public to purposeabout the quality of completed works,not just housing.The issue of construction quality carries the aspects of energy, economic, aesthetic, hygienic, architectural, technological and others.

Quality

The concept of quality is related to many phrases on a daily basis, whether consciously or unconsciously, occurring in various forms such as product quality, education, health services and life itself. It is one of the criteria of organizations competitiveness in the market (Gašparík, 2004).Nevertheless, the definition of quality is varied, and consequently creates a lot of confusion.

THE MEANING IF QUALITY

According Gabler's economic lexicon the quality is the expression of the whole by partial characteristics. The interpretation of quality can be perceived subjectively or objectively.Cambridge Dictionary describes the quality as a standard as well as something good or bad, and as a characteristic of something or someone.Quality as kind of grade (bad or good feature articles) is defined in a glossary Slovak language. From a philosophical point of view this dictionary describes it as a complex of properties and phenomena differing object or service from others.We can see the quality is not easy to define in a few words. Here are some definitions of quality sorted by authors and standards dealing with this issue in detail.

By W.E.Deming (1943), who became "guru" of quality control and quality management in the United States and Japan, the essence of quality is "when the customer returns but the not the product." B.Crosby (2001), developer of the concept of zero defects, records the consistency between quality and compliance. R.A.Broh (1982), looks at quality as a rather of perfection in consideration ofaffordable price at variable options of reasonable cost. V. Feigenbaum (1991), - originator of the concept of Total Quality Management (TQM) perceived quality as the overall consistency of the product or service to the consumer expectations.

Therefore, TQM is based on long-term success through satisfied customer, profits of all members and global prosperity. L. Thicke (2006), pointed in his research of quality to the fact that although people are talking about quality, they can under the sign read something different and so can become abstract conceptsG. Taguchi (1986), studies the quality engineering in Japan perceives the quality of the product as a loss caused by the use of a product from the first time it was delivered to the customer. Bauer (2000), combines quality with customer´s satisfaction, which is a crucial factor in the success of any organization. Krupa(2003),combines offer services with the requirements and needs of the customer, contained in adverse conditions relative to the life circumstances. Perceived citizen´s satisfaction in association with the quality on the basis of his social situation. Kotler (2008), claims the customer mostly prefers value, quality and service, the order of importance can be subjective. Benčo(2005), means the quality as ability to satisfy the predicted, or determined needs with summary of qualitative service. Standard ISO 9000, which is a global instrument for quality improving of organizations, describes quality as "the ability of a set of inherent characteristics of the product, system or process meets the requirements of customers and other stakeholders." Standard STN EN ISO 8402, 1996 alters the concept of quality as "the complex of characters of the object, which acquires the ability to satisfy stated and anticipated needs."

HARD AND SOFT QUALITY INDICATORS

Satisfaction is called. "Soft indicator - feelings and emotions" related to costumers perception, reflecting the level of their expectations related to the quality of products and services.The level of customer expectations is distinctive by Valerie, Zeithaml, Parasurman, Leonard (1990), to an acceptable level of quality when customers can readily accept and the desired level of quality that which set the level of the product or service in terms of quality. The hard quality indicators helps to measurably and objectively compare the facts regarding to the standards required. Uniformity of quantification and comparison of hard indicators helps us to keep several standards of technical standardization.In terms of quality and process improvement of products and services one of the most preferred action is improving of ISO 9000 in accordance with the quality management system (QMS).Organizations are awarded QMS Certificates solely on the basis of ISO 9001: 2000 in Slovakia released under the name ISO 9000: 2001 in April of 2001 (Gašparík, 2004).Upcoming new edition of ISO standard 9001: 2015 with altered structure of chapters should be harmonized and adopted by other

system standards such as ISO14001, ISO16125, and ISO27001).Excluding the changes in terms like „product", which will be replaced with „goods and services", the changes are mostly related to eight principles of quality, where the amendment will consist of reliance on the 7 principles of management, because by definition is a management system (3EC International Inc.).

Experts define the quality differently which is caused by various boundary conditions, but especially the time and the country in which the authors reported scope.Views and definitions of quality during the existence of market economy where constantly changed andare being developed by a very broad and subjective notion of a gradual increase objectivity and eliminating subjective components.Meaning of quality level for customer satisfaction is undeniably intertwined, despite the absence of the formulations definition. There are many opinions, formulations and methods of assessing binding to quality and customer satisfaction. (Halstead, Hartman A Schmidt, 1994; Fornell, Johnson 1996; Hill 1996; Oliver, 1997).

Production quality of construction

The effort associated with achieving quality production was established parallel with the activity. Based on the knowledge and experience in production recorded in the past raised a range of theories, methodologies and guidelines in order to increase production quality. Fundamental progress in this field forward to develop a series of international standards preferring the introduction of quality management to organizations. Activities needed to manage organizations focusing to customer satisfaction is anchored in the quality management system built and implemented on the basis of ISO9001 standards. The system except the basic input, intermediate and final control, includes processes which carries out within the intentions of the implementation of the construction works to the interaction with the quality of the final product leading to customer satisfaction.

The constructions quality can defined as the complex of products characteristics, which reflect the ability to meet customer's predetermined requirements.The quality is closely linked with the reliability,expressing the continuity of satisfying those requirements, with a specified lifetime, a minimum of demands for operation and maintenance, combined with a high standard of user requirements. Quality in Slovak construction is inadequate according the general analysis (CEEC Research, 2013).

PRINCIPAL FACTORS OF PRODUCTION QUALITY OF CONSTRUCTION

Building is a product of human activity, and for realization is necessary the effective using of human and material sources provided in certain time.Requirements for construction products are as follows: functionality, quality and reliability, in accordance with the performance of functions for the purpose were built. These high quality construction products should be properly designed, combined, made a well-built to meet the construction requirements in terms of quality.To build a quality construction is a difficult process, because every construction is unique its own way, despite the numerous efforts to unify and typify the building process in the past.Differences limiting the highest level of typifying and makes impossible the industrial mass production are contained in geological, geographical and meteorological conditions and in diversity of connection to the existing distribution network.The high level of projects individuality requires, in accordance with the size an extensive cooperation of professional companies in the implementation of the works on site.Seduction of a higher level of mechanization reduces the requirements for manpower, related to activities various in time, which reduce the relatively lengthy construction process.Increasing the effectivity of mechanization leads to decreasing of manpower, who should be properly trained for the exact type of work and machinery.The workforce is releasing which contributes to improving the performance, compared with the limited workspace.It provides the possibility of better coordination and efficiency of workers on the site in terms of time and of quality (Slašťan, Juríček, 2010).

In building construction, we can meet the suppliers with people with different approaches to quality, with significant differences in responsibilities, skills and levels of education.Realization and operating costs associated with pre-project and project preparation, construction, use, modernization and disposal, are creating an increased demand for the construction of such a product.If we compare to the other products on the market the building production is lengthy and costly process. The structures lifetime differences from the most of products and therefore there are individual requirements for the building products.Durability suitably selected and quality products implemented to the construction and their properly embedded in this conglomerate, for a certain degree of technological discipline is crucial factor for durability and functionality mainly required on the most of constructions. The current construction market is saturated with a big amount of building materials and construction products. Comparing with the past there is a significant factor in changed legislationin terms of quality, which essentially modifies the criteria relating to the quality of building materials and products.Systems interconnections of technology practice of construction professions significantly contributes to the quality of the realized building (Juríček, 2013).

Building organizations competitiveness depends on many factors of the market. One decisive criteria for final quality of the production, which is dependent on of quality of materials and products incorporated into the construction works, as well as the quality of the execution of construction works. Currently on the realization side

occurs the largest number of serious deficiencies which in practice lead to substantial degradation of quality. Errors of this nature are carried forward to subsequent phases of the life cycle of the building and are reflected in the increase in overall costs.

Structural works are realized especially in the open area, unprotected from the weather. This fact results a significant influence on the productivity of works and effects on the chemical or physical processes related to the construction, such as the setting and subsequent hardening of the concrete. Quality assurance of products stored outdoors is more complex than it is in a protected environment in industrial production in closed halls, using long easily controllable production facilities and permanent, trained staff to definition of the specific part of the product. Mechanization of building production is an essential part of improving the production process, which in many cases is not only mechanization replacing the manpower, but prevents the major construction defects caused by human work in fixed installations.

Chaining of complex production processes is accompanied by handing of construction in stages of activity between individuals or groups. Repeat this procedure is present also after completion of the building, object, or the structure, the outputs from previous activities determine the quality of subsequent production. This sequence is called the chain of quality. Poor quality of the whole product can be caused by poor quality of one article of the chain. The construction quality is therefore determined by incorporating only those products which are in accordance with the relevant general rules and technical specifications, meeting the requirements of the declared performance. The result of sub-work activities must be good quality and low-quality rectified before each take forward the manufacturing process to the next follow-up phase. The pursuit of quality is important to follow a comprehensive overhaul of the system, which serves as a necessary tool for quality management. Quality assurance in the past did not allow participation in a process of feedback from consumers actively engage in the process (Slašťan, Juríček, 2010; Juríček, 2013).

QUALITY ASSURANCE OF CONSTRUCTION IN SLOVAKIA

In the last decade of the 20th century began the quality fade in construction works, which also affected residential construction. According to EN 1990 " the structure has to be designed and implemented so that during their expected lifetime with a suitably chosen degree of reliability and an economical way kept carried over all burdens and impacts that are likely to occur during the implementation and use, and also enable the use of the purposes for which it was designed" Number of deficiencies, and the error is present at every stage of preparation and construction. Therefore, in terms of quality and prices the realized construction work necessary the systematic check of the correctness of the project proposal with the actual implementation of the project. In case of discrepancy between projected and actual state is necessary to convert counteract the deficiency states in the shortest possible time. Experience increasingly confirms the theory that the better preparation of project documentation, increases the assumption that the building will be made better. The relationship between quality and investment is the relationship between reliability and efficiency (Benko, 2012).

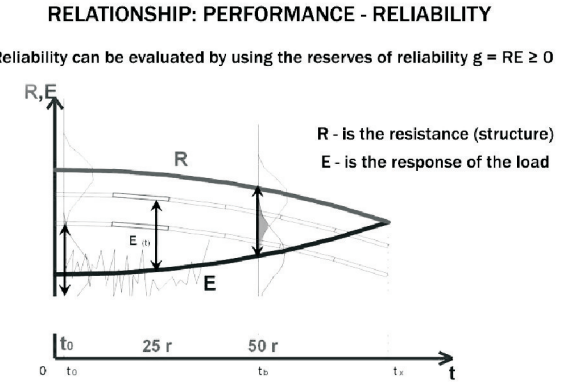

Figure 1: **Reliability of building structures**
(Source: STN EN 1990; Benko, 2012)

Categories of design working life	Informative design life (in years)	Examples
1	10	Temporary Constructions (1)
2	from 10 till 25	Exchangeable construction parts, for example: crane girders, bearings
3	from 15 till 30	Agricultural and Similar Constructions
4	50	Buildings and other usual constructions
5	100	Monumental buildings, bridges and other engineering structures
Constructions, or parts thereof, which may be removed with a prerequisite for further use, shall not be considered temporar		

Table1: **Informative Design life of building structures**
(Source: STN EN 1990)

Reliability of building structures (the probability of failure), is set according to the standards that thein case of normal use the building might have a problem of one million structures.After 50 years of use without additional amplification, the probability of failure decreases at 1:10 000th. Today we are witnessing many structures needed boost not only during the first years of their submission to use, but the building was repaired even before the acceptance, or even reinforce the lower floors of unfinished building to be ever able to build the building. The State is responsible to ensure for the public appropriately reliably defined standards.Buildings are products with a design lifetime for several generations, whose fate cannot be left to the free market regulation requirements.For a reasonable price customers has to get reasonable quality. But the pressure to make a cheap design may be a bug with fatal consequences. Today, when we see how many buildings has problems, it is clear where the constructions reliability because of the pressure falls on the low price.

"It is a big mistake to think that each designer do his work in top quality without of independent control.Under pressure to reduce prices in the crisis, as well as due to the influx of foreign designers often gets the designers fee to less than ten percent of the Compensation Regulations release, which was set as appropriate.For thus agreed fee, no one can expect quality work to the extent necessary. Just few investors have really aware that the price of the design work is only a fraction of the total price of the works. The scope of the project documentation cannot be left to the free choice of the investor"(Benko, 2012).

Insufficient quality of some projects causing problems between construction companies and investors. The average construction costs increases by up to 19.5%. The construction companies are not always able to obtain the funds from the investor. Currently two from three companies are buildingon the edge of "safe limit price"(CEEC Research, 2013).

Experience with the poor quality of project documentation are confirming four from ten construction companies directors (38%), a quarter of companies recognized this as average and 36 percent of firms are satisfied with the quality of projects. Top project documentation quality reaches the small and medium businesses, as the worst Top assess the quality of project documentation small / medium businesses and the worst quality can be seen in large companies. Poorly prepared project documentation shall raise construction costs by an average of 19.5%. "The quality of project documentation costs decreased compared to the period before 1989 to 20%. Today's lack discussion to all levels of project documentation and its feasibility, coordination professions feedback. "In 2013 had significantly change the design documentation up to 32% of buildings in Slovakia (CEEC Research, 2013).

Big companies	47%
Medium / small companies	29%
Structural engineering	31%
Civil engineering	36%

Table 2: **The proportion of contracts were it was necessary to change the design documentation during the construction because of its significantly poor quality.**
(Source: CEEC Research, 2013)

The selection of suppliers is different in small and large companies in terms of experience. Large companies are considered tender in the most efficient way, while small and medium-sized companies prefer their own long-term contacts, preferably with companies which have worked with them before. According to research by KPMG Slovakia and CEEC Research, 2013, the focus of the selection is the criteria of price and experience of the supplier and the least important criterion for the selection of a supplier company is the size of the company. However, they have more success in negotiating terms of large construction

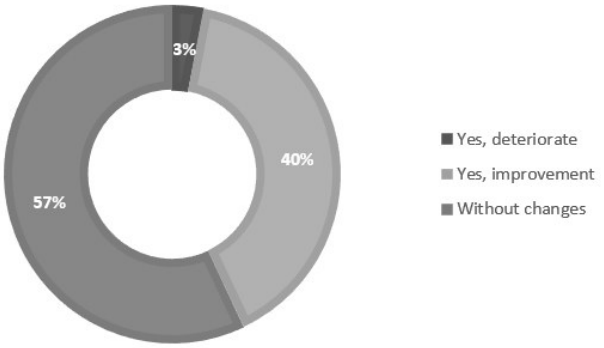

Figure 2: **Opinion Survey of representatives of construction companies to issue prediction of changes in the quality of work for 2014 compared to 2013.**
(Source: CEEC Research, 2013)

companies, their suppliers prices fell in 2012 to a quarter. "The key is the experience in delivery, references from previous cooperation, price, date of implementation, alternative solutions in offer or acceptance of contract and payment terms" (Lapuník, 2012).

SITE SUPERVISOR ENSURING OF CONSTRUCTION QUALITY

In practice, we often meet with suppliers who demonstrate the quality of the work executed before them in an effort to avoid the quality requirements of their work and claim the so-called. additional work of reasons labor intensive and carried unfinished after its predecessor. The construction supervisor should to eliminate these complications, he should work with managers of construction quality, as well as the builder - investor. The construction supervision is prescribed by regulations in legislation only in cases when the builder is performing a simple building yourself and at the same time he has authority for management and implementation. Experience shows that the need for quality construction supervision is necessary and quality control can save substantial funds to the builder. Construction supervision monitors the interests of the investor, because it is not the task of site manager (Antošová, 2008).

According to Law no. 50/1976. as subsequently amended in § 46 paragraph. b) The responsibilities of construction supervisor are the followings:

a) Monitor the method and procedure implementation of the building to ensure the safety and health at work, proper installation and operation of equipment on construction, professional storage building products and materials, the feasibility of using a professional storage of machinery and equipment; monitors keeping the site diary,

b) Tobe responsible for the compliance of the construction documentation, in observance of general requirements for construction and co-responsible for compliance with the conditions of

decisions issued to construct, in particular the development and building permits,

c) Toimpact for removal of defects that found on site; if the fault cannot be rectified in the course of construction supervision shall immediately notify the building office. "

By current legislation, we can define the nature and function of construction supervision as a professional activity performed by a person during the construction authorization for the construction and has a crucial importance to the protection of the public interest. Corresponds to the front of the State, as well as from the client and is a participant in the construction costs (Gašparík, 2010)

The quality management system covers all related Construction supervision and construction of the participants.

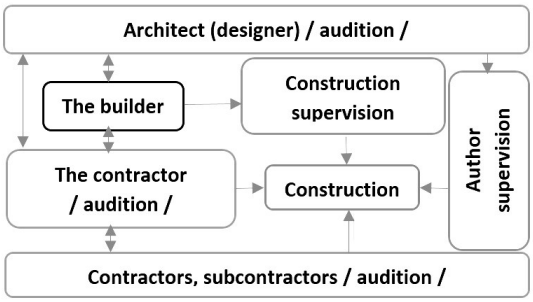

Figure 3: **The participants of construction and the bonds between them**
(Source: Gašparík, 2010)

Construction Supervision is conducted to ensure and assess the quality of construction works, which is derived directly from the law. It is fit for verification, examination, measurement, comparison with the specific requirements and the requirements set by legislation and project design with consistent results.

Check for implementing of construction work, and technology may be provided with three performance phase:

- Pre-realization phase (input –pre-production) is focused on the control of building materials and products, compliance with project documentation, the way of stocking and handling of equipment and materials, financial and material control materials and products
- Intermediate phase (in the process of realization) procedures and methods of construction with respecting of technological steps, technical regulations and mandatory standards, control the covered and later inaccessible parts of structures (evidence of control is kept in the site diary)
- After realization phase (output - post-production) control the properties of the desired quality

Construction Supervision also controls the construction site security service, security, protection of health (OSH), environmental protection and defending the public interest. Check the correctness of the site diary from the beginning of construction up to corrections of deficiencies and final realization, provides agreement for various works, and shall ensure compliance with technical standards, technical matters for cooperation with the author of building. It oversees the budget, timeline construction, treated materials for handover of the completed construction and is involved in the approval proceedings, which shall rectify the shortcomings occupancy permit (Fickuliak, 2004).

Construction supervision should be impartial, open-minded person who would guarantee for the developer the quality, performance and economic performance of the works (NVSR. No. 396 / 2006Z.z.).

The quality of final the construction is reflected in the final quality of the processes involved at all levels of construction and implementation. Execution of control in different phases of the production process is a tool provided only partial implementation of quality of the construction as a whole. Without rigorous controls and consequently reliable and rapid transmission of information on the results of entering the implementation process, it is difficult to guarantee the operational quality. In terms of quality the supervisors of its assessment and assurance in order to meet the expected results of works (Gašparík, 2010).

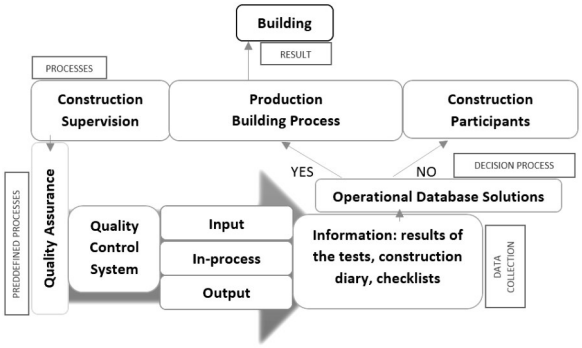

Figure 4: **Construction supervision in the process of quality assurance**
(Source: Antošová, 2008)

Conclusions

The concept of quality is closely related to terms such as reliability, availability, functionality and performance, equipment, compliance, durability, level of service, environmental soundness, safety, quality brand, design, subjective quality, customer satisfaction and innovation. This summary of features make the difference between companies in a competitive environment, and may provide for permanent preservation in the market place. Organizations constantly increasing and monitoring the quality of services, products and interpersonal aspects of

the company, committed to explore their strengths and weaknesses with their continuous evaluation and streamlining, are the organizations of modern times with the ever-growing potential.These organizations are better prepared for any effective change in the progress of society. The achieved quality of the final product is the appropriate way for the company to sustain customer's satisfaction, based on its needs.

A modern dynamic society should not be satisfied with the current state of quality to fulfill their needs. It would mean the stagnation coupled with a decline in rapidly expanding competitive environment.

Constantly awareness and removal of weaknesses in the quality is the path to prosperity. Streamlining mechanization, organization, and overall quality of project documentation will be streamlined costs associated with the life cycle of buildings in Slovakia. Construction supervision is in fact an essential component to ensure the quality of construction works. Updated edition of ISO 9001: 2015 should be one of the appropriate instruments conducive to improving of quality in Slovak construction.

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Csilla Fülöpová

RENTAL HOUSING IN AUSTRIA

Introduction

The topic of rental housing belongs to the most frequently mentioned problems nowadays. Among other countries, Slovakia is also looking for an ideal solution for the lack of rental housing and their construction. However, there are advanced countries lying to the west of us, where the situation is more favorable in this area.

On the basis of statistical data about rental and social rental dwellings, an interesting country is the neighboring Austria and specifically the city of Vienna. It is an ideal example to introduce the principle of rental housing and the possible operation of rental housing. Rental apartments in Vienna are built balanced for different income groups.

According to the statistics, most of the rental apartments from the total housing stock are in Germany - almost 59%, but the share of rental housing is impressive also in Denmark, France, the Netherlands and Austria. Actually Austria own the highest proportion of social rental housing (23%) and thus the highest share of council flats, compared to other countries of Europe (Housing statistics, 2011).

Countries	Social rental housing of total housing stock in %	The proportion of social rental housing of all rental housing in	The share of rental housing other than social of the total housing stock in %	The share of rental housing of total housing stock
AUSTRIA	23	56	18	41,07
BELGIUM	7	24	22,2	29,17
DENMARK	19	51	18,3	37,25
ESTONIA	1	25	3	4
FINLAND	16	53	14,2	30,19
FRANCE	17	44	21,6	38,64
GERMANY	4,6	7,8	54,4	58,97
HUNGARY	3,7	53	3,3	6,98
IRELAND	8,7	41	12,5	21,22
ITALY	5,3	28	13,7	18,93
LATVIA	0,4	2,5	15,6	16
LITHUANIA	3	43	4	6,98
LUXEMBOURG	2	7	26,6	28,57
NETHERLANDS	32	75	10,7	42,67
POLAND	10	64	5,6	15,63
PORTUGAL	3,3	16	17,3	20,63
SLOVAKIA	2,6	87	0,4	2,99
SPAIN	2	15	11,3	13,34
SWEDEN	18	48	19,5	37,5
UNITED KINGDOM	18	54	15,3	33,34

Table 1: **Proportion of rental housing in European countries**
(*Source: Housing statistics in European Union, 2011*)

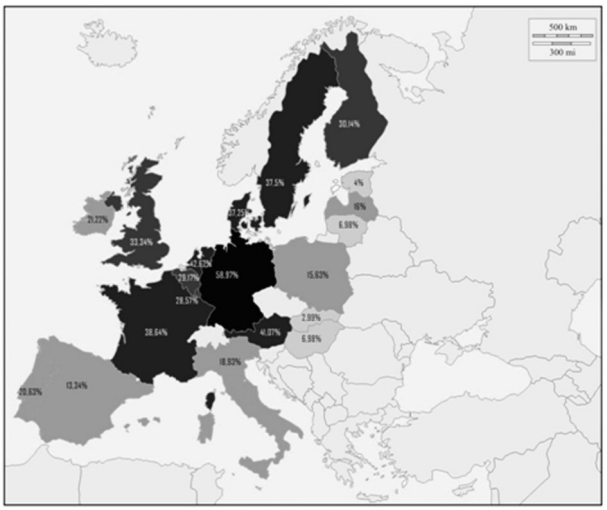

Figure 1: **Share of rental housing in European countries**
(*Source: Housing statistics in European Union, 2011*)

Rental housing in Vienna

The city of Vienna is the largest municipal owner of apartments in Europe, and from its 1.7 million inhabitants about every fourth lives in a council flat. In Vienna there are currently about 230 thousand municipal houses in 23 districts of the city. This number represents about one-fifth of all households in the city and every year the city allocates 10 thousand additional council flats (Viedenská cesta sociálneho systému, 2014).

The city has a total of 2 000 buildings with general apartments, where approximately 500 thousand inhabitants are living. Besides municipal rental housing, the city owns 5,400 premises, 47 000 garages and parking spaces that can be chartered / rented. These represent a total area of 13,441,914 m2, which corresponds to about 1829 football fields (WIENER WOHNEN, 2014).

The city of Vienna has a huge immovable property, and except of the rental apartments that the city owns throughout the city, there was an additional 2 500 new dwellings, only in passive house quality. What is interesting that among them is a building in passive house quality (and there are) with social council flats and it just makes them their location, since the building is placed in a densely built-up part of the city.

128 apartments are allocated in the mentioned building, and the two other neighboring properties are also results of similar projects. These three blocks include separate nurseries and health departments, which are placed into the lower parts of the building. All buildings have green roofs and there is even a swimming pool on one of them. After knowing the concept, you may be wondering how

much all of this costs. For the Austrian conditions renting of these apartments is for a very reasonable price, representing 9 euros / m2. This means, for one whole apartment, which has in average 80-90 m2, the rent costs from 720 to 810 euros. This price, compared to the normal market price for rent is very favorable, although social rental apartments in Austria can be rented for 4.5 to 5 euros per m2.

An interesting feature of this project is that the construction costs are not much more expensive than here in Slovakia, the only difference is in the cost of labor. This fact may be one of the problems why only few investors are willing to invest into the construction of rental housing in our country. While in Austria since the construction costs are comparable to ours, rental costs are higher, which the local people can easily afford to pay. Therefore the financial return of the investment into these apartments in Austria is so high, that the profits are reversed back into the cycle, resulting in more and more new buildings (Bodnár, 2013).

Vienna is planning to build 2,000 more housing units in the quality of passive houses, according to information published on their website. The first of them should be ready during this year 2014. Smart homes will be incorporated into new residential projects throughout Vienna (Wohnbauprogramm, 2014).

Housing organizations in Austria

The foundation of the Austrian support system are housing organizations. The state, through this system, supports primarily constructions and in a smaller proportion subsidizing directly the households. In Western European countries the non-profit housing organizations had a very important role already from the 50s to 70s. Afterwards, when the housing market was gradually saturated in the 80s, their activity has slowed down since these social costs presented a huge burden for the national budgets. However, their main task, which was to provide housing offers for middle and lower income segments of the population, continued to maintain (Ivanička, 2006).

HISTORY AND LEGISLATIVE BACKGROUND

Austria consists of 9 federal states and the housing policy in the individual provinces is different, most significantly in the capital and the province of Vienna. Therefore housing policy is decentralized and only the most important laws such as: Law on rental, Law on ownership of apartments and the Law on non-profit housing, remained uniform throughout Austria. In Austria, non-profit housing organizations were already operating in the 19th century. The industrialization of the cities has resulted in great interest in the housing in those cities, however, the conditions were inadequate and the demand for apartments has increased.

Housing policy in Vienna had been developing since 1923, when Karl Seitz became the mayor. At that time about 65 thousand new houses were built over a decade. After the war years Vienna has reborn and from 1945 to 1993 150 thousand public houses were built in the Austrian capital only. (Špirková, a iní, 2009), (Zúbková, 2008)

Non-profit housing organizations in 2001 built 120 to 150 thousand flats and operated totally 750 thousand. Over 3.7 million non-profit housing existed that time in Austria with 2 million inhabitants. (Ivanička, 2006)

Currently there are 197 non-profit housing organizations totally in Austria which have a legal form of:

- 52% the housing associations
- 43% companies with limited liability
- 5% joint stock companies
  (Neziskové bytové organizácie v Rakúsku, 2006)

Austrian non-profit housing organizations are legally subject to the following laws:

- Law of housing on non-profit basis ("Wohnungsgemeinnützigkeitsgesetz"),
- Law on the promotion of housing construction ("Wohnbau-förderungsgesetz"),
- Law on the determination of rent
- Law on home ownership

The law for housing on non-profit basis is defined by a list of activities of non-profit housing organizations, the principles of efficiency and functionality, principles of determining the rent, restriction of the profit of shareholders and the control and supervision of their activities. According to this law non-profit housing organizations should be generally beneficial and are obliged to reinvest profits back into the construction of affordable housing. To fulfill this condition, the size of floor areas are also determined. The law further defines the income ceiling of managers and a maximum cost of managing, planning and construction of these flats to prevent the possible uneconomic behavior of the organizations. In addition to non-profit activities in the social housing sector, the non-profit housing organizations have sufficient space for other activities, such as construction of ownership buildings and more expensive rental houses (Gruis, 2004).

FINANCING AND LEASING

Non-profit housing organization are financing construction of rental housing primarily through grants from the federal states and loans, further from deposit of the tenants, and also from own resources. While in most European countries the promoting of the social rental housing sector is decreasing, or focuses more on individual grants, in Austria the direct subsidies are still successfully operating. Although this may be the reason why in the country the social rental housing have such a high proportion besides the rental housing.

Although even there they started to think about focusing on the individual grants, but so far only 3-4% of households get housing allowance in the form of individual grants.

The primary subsidies for the housing sector are funded from the state budget of the federal states. They are also deciding about the investors and landlords, which will be granted with financial support and also specify criteria such as income ceiling for future tenants. Individual federal states are also responsible for the law on the promotion of housing construction. Mentioned financial support is also a kind of motivation for more economical and environmentally friendly energy-efficient construction. During the distribution of subsidies is an important fact, that the non-profit housing organizations should propose environmentally friendly projects in terms of energy. Thanks to this system, Vienna can boast with projects of social rental housing with passive character (Gruis, 2004).

The Housing Law on non-profit basis defines, that objective conditions must apply during the selection of tenants and income limits must be kept according to the Law for Promotion of housing. These determine the income limits of future tenants interested in rental housing. Income limits vary across the different federal states and the highest are in the country's capital, Vienna. Besides the amount of rent, a non-profit housing organization must determine the principle cost of rent also. The minimum and maximum lease amount is clearly determined by the Law of housing on non-profit basis, where it is stated, that loan installment is to be counted into the cost of rent and rents below expenses are prohibited (Neziskové bytové organizácie v Rakúsku, 2006).

Non-profit housing organizations have, in addition to facilitating and priority access to the support tools of housing development, the possibility of tax exemptions and reductions in most countries, financial support from the municipalities and the central government. Municipalities can often support their activities by creating municipal lands avaliable for construction. Further support is in the mentioned forms of investment grants and tax credits. Nonprofit organizations are in turn obliged to comply with the requirements of government, such as a limit regarding costs. Thanks to that a lower price of rent for social housing can be retained, compared to other apartments on the market.

BUWOG

One of the largest and most important housing associations currently is the BUWOG company. It was founded by the government of Austria back in 1959 as a limited liability company, and the country submitted about 3 million Euros into its operation. Now the company value is multiplied and in 2001 it was around 19 million Euros. At its inception, the primary goal of the company was to ensure convenient apartments for attractive prices and rents for state officials.

Principles of the functioning of BUWOG were:

- prices had to cover the costs of construction and management of rental housing - profit could be 4-5% of the property value
- profit divided between the owners is regulated - strict rules
- obligation to issue ordinary shares (so the profits are not subject to income tax)
- the control is provided by independent auditors
- pricing, financial activities, rents

BUWOG company enjoys preferential access to housing subsidies and its operation is also supported by tax incentives and exemptions. In 2001 the company managed together 22,050 apartments. In March of this year they gave up the statute of contributory organization and since then it has operated on the open market also. (Obraz bytových združení v období medzi limitovaným ziskovým sektorom a otvoreným trhom, 2002), (Špirková, a iní, 2009), (Ivanička, 2006)

Conclusions

The abroad functioning systems of rental housing can serve as a good example for other less developed countries in this area, such as Slovakia. Austria and other countries, which have successfully operated a system of residential organization and rental housing is provided for different income groups, could be good inspiration during the development of the rental housing to the right direction. Austria is a country where the already existing housing stock isn't neglected and during the construction of new residential buildings, therefore rental houses, care is taken to conserve available energy resources and prefer the construction of passive houses. Also for these reasons the foreign experiences in the residential sector may be interesting in the pursuit of the development of rental housing in Slovakia. The development of rental housing sector could mean more affordable form of housing for all income groups.

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FLOODS ARE BECOMING A SIGNIFICANT DETERMINING FACTOR IN URBANIZED COUNTRY

FLOODING IN AREAS - HOW THEY ORIGINATE AND WHAT ARE THEIR CONSEQUENCES

Introduction

For centuries and even millennia, people have been settling near rivers in orderto till fertile soils, profit from flat terrain, have easy access to the water needed tosustain life, and use the river for transport. In days gone by, dwellings were typicallyconstructed on higher land, while lower ground was used for farming. Riparian peoplesbenefited from thefloods which have enriched the soil (irrigation and nutrient supply) and helped agriculture. In short, people lived in harmony with floods (Kundzewicz, 2004).

The frequency and consequences of extreme flood events have increased rapidly worldwide in recent decades (e.g. Bouwer et al. 2007; Kron 2009 in Zevenbergen, 2013).

The key drivers for these increases are the world's population growth and the increase in socioeconomic activities in flood-prone areas and significant climate change, which occurred in almost all countries of the world.

Causes of floods

The cause of floods are most frequently extremely heavy rains or sudden melting snow combined with significantly reduced ability, even inability of an area to retain rainwater (due to damage to the country – e.g. dried swamps or drained of agricultural land).

Flood risk may have increased due to a range of changes in the use of land, which inducechanges of hydrological systems. Deforestation, urbanization, and reduction of wetlands cause a decrease in accumulation of water in the basin and increase the runoff.Urbanization has a negative impact on the risk of flooding by increasing impervious surfaces (roofs, roads, sidewalks, parking lots, etc.)(Kundzewicz, 2004). Extensive asphalted or concrete surfaces contribute to the rapid runoff of rainwater and the drying the soil under these built-up areas, including reduction of groundwater reserves and climate change in cities.These factors cause changes in drainage conditions and increase the risk of local flooding.According to EEA (2001) on average every 10 years a loss of 2% of agricultural land in Europe occurs.

The dried soil without anti-erosion measures (e.g. fields with an area of tens of hectares without any vegetation) behaves as an impermeable film. In such an affected land a flood wave can easily arise, which rises up to 3 or 4 meters within a few tens of minutes respectively hours, even at a creek which the water level of is typically 20 or 30 cm.

The countries face a wide variety of flood problems and have differing capacities to deal with these problems.Some countries are situated in temperate and monsoon-like climates, or have mountainous or flat floodplain-likefeatures. Bangladesh has extensive floods every year, covering up to 30–60% of the country, whereas theNetherlands experienced real devastating floods for the last time in 1926 (rivers) and 1953 (storm surge).

Several sources of floods were identified: (a) floods that occur regularly in relation to yearly monsoon rainfall(Bangladesh, China, Vietnam), or (b) as sudden flash floods after torrential rains in mountainous areas (Argentina,Bangladesh, China, Croatia, Flanders, Indonesia, Japan, USA, UK, Vietnam). In addition, floods may occur (c) as rareevents due to unusual combinations of rainfall and soil conditions (prolonged rainfall in combination with frozenor saturated soils, poor drainage or drainage congestion due to high river or sea levels, e.g. during typhoons orhurricanes (Croatia, Japan, USA) or floods may occur(d) due to embankment failure, e.g. due to poor maintenance(Croatia), inadequate construction or poor design (failures can occur everywhere) or riverbank erosion(Bangladesh).

Flood damage is most pronounced in urban areas, where high densities of people, assets and vulnerable infrastructure occur (Buenos Aires, Dhaka, Jakarta, Japanese cities, Croatian and Chinese floodplains). Extremelydangerous are low-lying polders behind embanked rivers, where flood levels may be 5–10meters above ground level.This situation occurs in the river deltas of the Netherlands, China, Japan, USA and Bangladesh (Van Alphen, Lodder, 2006).

Flood consequences

Impacts of floods due to high density of population, large impervious areas, clogging of drainage systems, high economic values of properties and infrastructures and various other effects can be: physical, economic, social and environmental (Tingsanchali, 2012). Random nature of flooding (frequency of occurrence, progress and culmination flow) is also reflected in the variability of flood damages, which are proportional to the damaging effects of floods, the extent of the flooded area and the degree of economic exploitation.

In general, we can divide the flood losses:

- losses on human life;
- ecological losses;
- economical losses.

The consequences of all natural disasters are always twofold. Primarily produced damage caused by the action of natural forces themselves. Direct flood damage covers all varieties of harm which relate to the immediate physical contact of flood water on humans, property and the environment.

This includes, for example, damage to buildings, economic goods and dykes, loss of standing crops and livestock in agriculture, loss flood damage, vulnerability and risk perception of human life, immediate health impacts, and contamination of ecological systems. Indirect or consequential effects comprise damage, which occurs as a further consequence of the flood and the disruptions of economic and social activities for example interruptions of energy supplies, interruption of communication links, water logging buildings, contamination of drinking water sources, environmental accidents and more. This damage can affect areas quite a bit larger than those actually inundated.

One prominent example is the loss of economic production due to destroyed facilities, lack of energy and telecommunication supplies, and the interruption of suppliesof intermediary goods. Other examples are the loss of time and profits due to traffic disruptions, disturbance of markets after floods (e.g. higher prices for food or decreased prices for real estate near floodplains), reduced productivity with the consequence of decreased competitiveness of selected economic sectors or regions and the disadvantages connected with reduced market and public services (Smith/Ward 1998, Green et al.1994 in Messner, Meyer, 2005).

Primary and secondary effects of large-scale flood disasters are a particularly serious source of risk tothe society in terms of impact on it, the property and the land.

Flood losses can be distinguished as (Hanák et al., 2009):

- direct calculable losses (caused by immediate contact with water – propertylosses, contamination, …);
- direct non-calculable losses (caused by immediate contact with water - victims,losses on historical buildings, destruction of biotopes, subjective losses on property,…);
- indirect calculable losses (profit loss, purchasing power decrease, decrease of realproperty prices, evacuation costs, …);
- indirect non-calculable losses (social life failure – education, increased rate of sickness).

Financial consequences of floods, which can be directly quantified, include flood damages by themselves and the cost of rescue and security works (Table 1).

Increase in economic losses due to natural disasters is closely associated with the increasing value of assets exposed to risk. During the 20th century in all economically developed countries a continuous increase in the value of tangible and intangible assets which are the subject of threats to natural processes occurs. The value of endangered assets and volume of total insured property is growing faster than the intensity of natural threats (Messner, Meyer, 2005).

The total damage potential, which represents the maximum possible damage incurred as a result of the process, is influenced by the structure, value and deployment of assets in floodplains. The actual amount of flood damage of a specific flood event depends on the vulnerability of the affected socio-economic and ecological systems, i.e. on their potential to be harmed by a hazardous event (Cutter 1996, Mitchell 1989 in Messner, Meyer, 2005). The vulnerability of socio-economic structures is reflected into a growing dependence on sophisticated technology and communications systems. In the event of their collapse the dependence of all management systems for electricity supply for computing, information and communication systems, telecommunication networks and transportation causes greater chaos and harm than in the less advanced systems. In crisis situations the ability to deliver the right information at the right place at the right time and in the correct form plays a decisive role for the functioning of the rescue system. Timely and correct information and communication functionality have proved to be one of the major problems which marred the solution of flood situation in extreme floods for example in August 2002 in the Czech Republic, despite the experience of the floods in the year 1997 in Moravia (Langhammer, 2007B).

Growth flood damage is influenced by various factors such as:

- The waythe space is built;
- The way floods behave (culmination flow, shape and volume of flooding, duration of flooding ...);
- Bed capacity, condition and ability to withstand more water;
- Timely awareness of flood risks (weather, warning system);
- Preparedness and level of flood protection.

Year	Flood security works	Flood rescue works	Flood works (together)	Flood damages	Flood damages and works (together)
2002	1 664 177,12	1 927 072,96	3 591 250,08	50 644 393,55	54 235 643,63
2003	139 314,88	188 773,82	328 088,70	1 457 412,20	1 785 500,90
2004	3 416 915,62	1 235 842,79	4 652 758,41	34 913 496,65	39 566 255,06
2005	2 674 135,30	2 236 241,12	4 910 376,42	24 045 973,58	28 956 350,00
2006	6 424 815,77	6 053 508,60	12 478 324,37	79 602 237,27	92 080 561,64
2007	212 374,69	319 358,69	531 733,38	3 638 949,74	4 170 683,12
2008	2 514 937,00	3 586 769,00	6 101 706,00	39 754 597,00	45 856 303,00
2009	1 591 301,00	1 301 334,00	2 892 635,00	8 436 354,10	11 328 989,10
2010	28 041 650,00	25 751 090,00	53 792 740,00	480 851 663,34	534 644 403,34
2011	12 573 473,82	2 001 204,36	14 574 678,18	20 017 256,53	34 591 934,71
do 8/2012	460 623,91	369 427,02	830 050,93	2 435 268,39	3 265 319,32
9/2012 - 6/2013	4 518 834,57	2 648 270,81	7 167 105,38	12 782 551,26	19 949 656,64
07/2013 – 12/2013	231 642,20	81 634,11	313 276,31	678 046,16	991 322,47
Ø 2002 – 2013	5 372 016,32	3 975 043,94	9 347 060,26	63 271 516,65	72 618 576,91

Table 1: **Overview of expenditure for the implementation of flood safety and rescue works and flood damagein the period 2002 - 2013 in Slovakia**
(*Source: Prepared on the basis of data from "the Report on the progress of the flood" (www.minzp.sk)*)

In addition to economic and social damage, floods may have severe environmental consequences (COM, 2004) as for example when waste water treatment plants are inundated or when factories holding large quantities of toxic chemicals are also affected. Floods may also destroy wetland areas and reduce biodiversity. There is also a growing awareness of the significance of river flooding on human health, both physical and psychological. Substantial health implications can occur for example when floodwaters carry pollutants, or are mixed with contaminated water from drains and agricultural land. There will be mental health consequences as well: in addition to the considerable stress of extensive damage, the threat of repeated floods, sometimes coupled with possible withdrawal of insurance cover can make properties impossible to sell.

FACTS - flood damage

Since the early 20th century to the present day, there is a significant increaseto the extent of damage caused by natural disasters. Only for the period since World War II the total average amount of damage per decade increased almost tenfold (Munich Re 2005 in Langhammer, 2007A).

The most characteristic feature for the current disasters is the growing extent of the damage made in a single event while at the same time agreater population and greater expanse of territory are affected (Axco 2005, Munich Re 2005 in Langhammer, 2007A). While in the 1980s annually 147 million inhabitants have been affected by natural disasters, it was already 211 million inhabitants in the 1990s (UNEP 2005 in Langhammer, 2007A). Social and economic impacts of natural disasters vary considerably. There is a continuously decreasing total number of victims of natural disasters, while direct and induced economic losses are growing rapidly (UNEP 2005 in Langhammer, 2007A).

According to data from Swiss Re an event is considered a disaster where there are at least 20 victims, 2 000 people homeless and over 335 million USD insurance claims (Čamrová, Jílková, 2006). Floods are the most common natural disasters and represent 40% of all natural disasters between the years 1985-2009 (Cunado and Ferreira, 2011 in Soukopová, Furová, 2012). During the last few decades, however, increased attention has been paid to the consequences of floods and measures that could be developed to reduce the effects of a flood. This has been triggered by the observation that economic and insured losses due to "extreme" floods have drastically increased during the last two decades (Munich RE, 2005) even though flood protection investments have also increased.

Year	Month	Area	Number of victims	Economic losses (mil. EUR)
1999	May	Germany (Bavaria), Switzerland, Liechtenstein and Austria	5	805 (370 Germ. + 435 Switz.)
	June	Romania	19	
	November	France	33	570
	April	Romania, Hungary, Serbia, Ukraine	9	400 (Rom.)
2000	Oct.-Novem.	England and Wales	10	1400
	October	Italy, French, Swiss and Italian Alps	29	11700
	June	Romania	7	220
2001	July	Poland	25	810
	August	Germany, Czech Republic, Austria	47	20900 (13700 Germ. + 3500 Czech Rep. + 3700 Austria)
2002	September	France	23	1500
	Nov.-Dec.	Italy		440
	January	Italy		150
2003	February	Greece		650
	August	Italy	3	510
	December	France	7	1600
	August	England		700
2004	April-May	Romania and Serbia		565
2005	May - August	Bulgaria	24	335
	July - August	Romania	85	1200
	August	Switzerland, Austria, Germany	11	2810 (190 Germ. + 620 Austria + 2000 Switz.)
	March	Greece		410
2006	March - May	Hungary, Slovakia, Serbia, Czech Republic, Austria and Germany	12	800 (590 Hungary + 210 Czech Rep.)
	June	Romania	44	
	Oct.-Novem.	Turkey	47	265
	May	Spain		310
2007	June	England		270
	June	Northern England and Wales	6	1900
	July	England	7	1900
	August	Switzerland		290
	September	Slovenia		245
	July	Romania	5	440
2008	December	Italy	3	290
	June	Czech Republic and Poland	14	450 (200 Czech Rep. + 250 Poland)
2009	September	Turkey	31	100
	October	Italy	35	
	November	England and southern Scotland		230

Table 2: **Floods in Europe with significant consequences**
(*Source: EEA. 2010*)

The main explanation for this trend can be found in socioeconomic development and spatial planning policies, as it appears that wealth and exposure have increased in flood-prone areas (Munich RE, 2005; EEA et al., 2008). Even in areas where the overall population growth is slowing down (for example, along the Rhine river), population growth in cities along rivers tends to be increasing (LDS NRW, 2008 in De Moel et al., 2009). Flood-prone areas remain attractive for socioeconomic activities and it is therefore likely that the damage potential (that is the amount of assets in flood-prone areas) will continue to increase in the future.

Using data compiled according to the Red Cross for the period 1971-1995 we find that the floods have killed annually on average more than 12,700 people worldwide, affected 60 million others and caused 3,2 million people to became homeless (Kundzewicz, 2004). Since 1990, there have been over 30floods, in each of which either the material losses exceeded one billion USD, or thenumber of fatalities was greater than 1000, or both. The highest material flood losses,of the order of 30 billion USD, were recorded in China in the summer of 1998, whilea storm surge in Bangladesh in April 1991 caused the highest number of fatalities(about 140 000). Flood damage in Europe in the period 1991-1995 reached the level of99 billion EUR (EEA, 2001).

Countries such as Bangladesh and China have suffered at least 2,5 million victims in the last 100 years in major floods. In Europe, the loss of life has been a matter of thousands in the past century. In the last decade, in terms of casualties, major riverine flooding has occurred in Vietnam in 1997 (3000), Bangladesh in 1998 (1100) and China in 1998 (1320).In economic terms, major floods of the past decade were along the Mississippi (1993, 21 billion USD), Jang – c' (1998, 30 billion USD) and in Central Europe (2002, about 20 billion USD). In terms of loss of GNP, the most devastating floods occur in developing countries: the 1998 and 2004 floods in Bangladesh caused damage of 2,8 and 2,2 billion USD, i.e. about 7% of their GNP. In China flood damage accounts for 1–3% of its GNP every year, whereas in Japan it accounts for about 0.1%.The wealth of a country determines the amount of funds that can be spent on flood protection and can be expressed through the annual income per capita. In the countries concerned, this varies from less than 2000 USD in Bangladesh to about 40000 USD in the USA (Van Alphen, Lodder, 2006). Although most dramatic extreme floods occur outside Europe (especially in South Asia), Europe is not immune. There have been several flood events with material damage in excess of 1 billion EUR and the growing flood damage has intensified concern among European nations.After the flood-rich decade of the 1990s, with many disastrous flood events in Europe, the 21st century has already witnessed several destructive floods.Among the destructive floods in Europe in the 1990s were flooding in the basins of the River Rhine and its tributaries (1993, 1995), in the Mediterranean region (1994) and in Central Europe (1997).

The flood on the Rhine in December 1993 caused inundation of parts of the cities of Koblenz, Bonnand Cologne and then in January and February 1995 another large flood hit Germany, northernFrance and The Netherlands. Dramatic floods devastatedlarge areas in the Czech Republic, Poland andthe Oder basin in Germany in July 1997.Major floods occurred in the UK, Italy, Franceand Switzerland in the year 2000. The absolute recordof annual flood loss in Europe was observed in August2002, when the material damage exceeded 20 billion EURin nominal value (Table 2). This flood damaged the historicalcities of Prague and Dresden. Major large floodsalso occurred in Europe in 2005, 2007 and 2010 (Kundzewicz, Pińskwar and Brakenridge, 2013). After a heavy rainfall there has also been a dramatic increase in the levels of European rivers in 2013, as for example in Germany and the Czech Republic which also brought casualties and the declaration of the highest level of flood activity.

The direct economic losses from the major events between 1999 and 2009 were about 55 billion EUR. The most destructive events in terms of economic losses were: the floods in the Elbe basin in 2002 that produced losses of over 20 billion EUR; floods in Italy, France and the Swiss Alps in 2000 causing around 12 billion EUR and a series of flood events in the United Kingdom during summer 2007 accumulating in losses of more than 4 billion EUR Several areas were affected several times in a relatively short period of time. This is the case of England (Worcestershire and Gloucestershire) where two major events were reported in 2007. Also north-east Romania and Bulgaria experienced repeated flooding. Two particularly large floods hit both countries within just a few weeks of each other during the summer of 2005 (EEA, 2010).

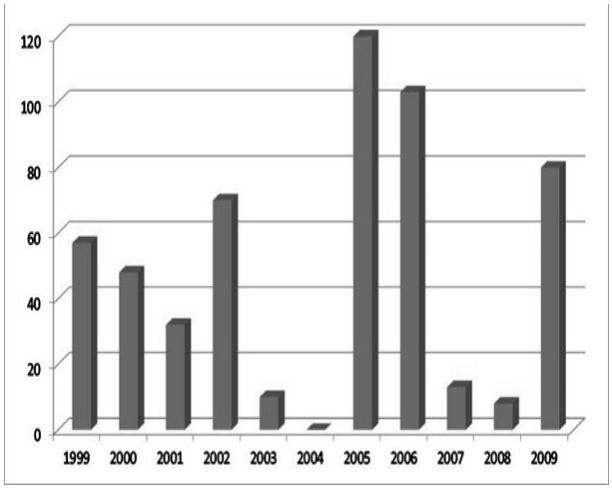

Figure 1: **Numbers of victims**
(*Source: Prepared on the basis of data from EEA. 2010*)

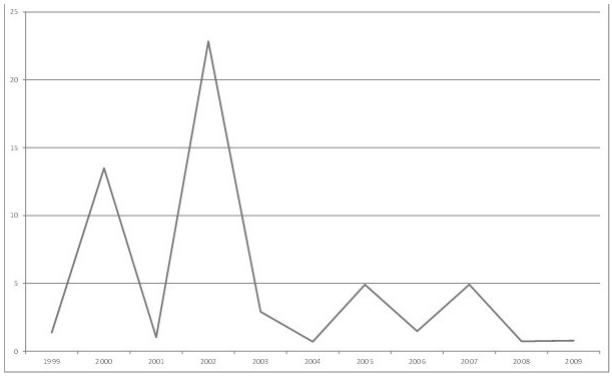

Figure 2: Economic losses

The countries registering the highest economic losses were Germany (14,26 billion EUR), Italy (13,1 billion EUR), United Kingdom (6,4 billion EUR), Austria (4,32 billion EUR), Czech Republic (3,91 billion EUR), France (3,67 billion EUR), Romania (over 2,82 billion EUR) and Switzerland (over 2,72 billion EUR). Flood events resulted (in the reporting period) in around 541 human fatalities. The most fatal events occurred in Romania with 85 people killed in 2005, in Turkey with 47 and in Romania 44 killed in 2006 and in Italy with 35 killed in 2009. It seems that there is no evident trend over time in respect of the number of fatalities. This is because the number of deaths is very much dependent on single events. Furthermore, in the past few years early warning systems and prevention measures have improved evacuation procedures in the areas exposed to floods (EEA, 2010).

Flooding, along with wind related storms, is the most important natural hazard in Europe in terms of economic loss (CRED 2009 in EEA, 2010). In central Europe, floods have been recently recognized as a major hazard, inparticular after the 1997 Odra/Oder flood, the 2001 Vistula flood, and the mostdestructive 2002 flood on the Elbe, the Danube, and their tributaries. It is estimatedthat the material flood damage recorded across the continent of Europe in 2002 washigher than in any single previous year. According to Munich Re (2003), the floods inAugust of 2002 alone caused damage at a level exceeding 15 billion EUR (9,2 billion EUR inGermany, after 3 billion EUR each in Austria and in the Czech Republic). Further, during severe stormsand floods on 8-9 September 2002, 23 people were killed in southern France (Rhonevalley), while the total losses went up to 1,2 billion USD. Destructive flood eventsoccurred in many other parts of the world in 2002. In July and August, floods andlandslides in northeastern and eastern India, Nepal and Bangladesh killed 1200 people. Aflood in central and western China in June caused 3,1 billion USD losses and killed500 people, while another in central and southern China, caused 1,7 billion USD damage andkilled 250 people (EEA, 2010).

Floods in 2013, which affected parts of Europe, Asia, Canada and Australia have caused about 47% of total global losses and 45% of insured losses (Munich Re, 2013).

The most deadly disaster of the 460 recorded "natural hazard events" worldwide in 2013 was the series of flash floods in June in northern India and Nepal, which killed more than 1,000 people after extremely heavy monsoon rains. By far the costliest natural disaster were river floods that hit the southern and eastern Germany and neighboring countries in May and June 2013 and caused damage worth more than 16 billion USD (mostly in Germany). In some places the rainfall was up to 400 liters per square meter within a period of a few days, which led to rapid increase in river systems of the Danube and Elbe (Munich Re, 2013).

In 2013 Slovakia faced a record-high level of the Danube. Flood wave came from Germany and then from Austria. According to estimates it was historically the third largest flood in Bratislava (in terms of maximum flow), more water has not passed the river bed in the last 113 years. The water level peaked in the Capital at up to 1034 cm at a maximum flow rate of 10 641 m3 / s. The Danube basin faced a hundred-year water level and Slovakia passed this test. Without the flood protection(the project was worth 32,5 million EUR, of which Slovakia co-financed about 4,8 million EUR) the water level would reach, in theory, a level of 1,25 m at the Courthouse ("Justičnýpalác"), 2,5 m at the well-known shopping center on Vajnorska street and even 4 m at the Ružinovská polyclinic.Reported damage to public and private property, that is, for example, municipalities, autonomous regions, local offices or individuals after the flood on the Danube in 2002 reached 5,079 million EUR.Damages in 2013 represented less than 2% of this amount or vice versa, damages in Bratislava in 2013 were about 98% lower than in 2002 (MŽP SR, 2013).

Conclusions

Floods in the past brought humanity many positive effects as floods in the Nile, which helped ensure the livelihood of the population in ancient Egypt. Only when the floods began to threaten the lives, health and property of the population and economic activities of society, they became a serious problem for the mankind.Not the nature can be held responsible for the fact that the floods are harmful to society,but the people because they take natural space from water and put themselves in her way (MŽP SR, 2010). On the other hand, building of settlements in the watercourses was necessary because rivers provided enough water to cater for the necessities of life and the most fertile land due to floods is in riverside floodplains. Society is becoming more aware that floods can be controlled to a limited extent, and that absolute safety against floods is a myth.

The flood as a natural hazard has effecton the stability of society. If more people are to dwell in vulnerable areas and more and more businesses settle down in these areas the more intensive effect a flood event will have upon society (Seifert, 2012).

It will be necessary to evacuate more buildings, provide emergency accommodation for more people, more workers will not be able to make money, because they will have to rescue and look after their property. More and more companies will have to suddenly cease production, services will no longer be provided, unexpected shortfalls in tax receipts shall bring the municipal budgets out of balance and public services will no longer be funded. The infrastructure to repair after a flood event will also be more extensive.

One single event may produce both benefits and losses to different parts of the riverine ecosystem. These impacts are extremely difficult to quantify or monetize e.g. by quantifying ecosystem services before and after an event or accounting for the number of fish killed or trees damaged. Regular annual floods provide water resources for domestic supply, irrigation or industrial use. Some of the most important benefits of floods are linked to the maintenance of biological diversity in the flood plain ecology (Smith and Ward, 1998). Furthermore, many rivers carry minerals and nutrients which support agricultural production on the flood plains. Another aspect that makes it difficult to quantify the ecological consequences of floods is that some of the benefits from floods tend to become evident months or years after the event, or are often not apparent at all (e.g. recharging of groundwater stocks). This suggests that any immediate ecological accounting is prone to error (NRC, 1999). Flooding in river ecosystems should be regarded as a natural process and not as a disturbance.

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Julius Golej

SUSTAINABLE URBAN DEVELOPMENT ON SELECTED EXAMPLES OF INTELLIGENT CITIES

Introduction

Urbanization has increased, particularly in developing countries with an average annual urban growth rate of 3.6% between 1950 and 2005. However, during the same period, industrialized countries experienced an urban growth rate of only 1.4% (Sahely, et al., 2005). It has been estimated that 45% of the population of developing countries (1.97 billion) and 75% of those in developed countries (945 million) were living in cities in 2000 (Aubry, et al. 2012). It is expected that by 2025, the urban population will reach 5.5 billion, with an estimated 2.5% annual rate of increase. The urban population in developing countries will reach 4.3 billion; that is, more than three times that of developed countries (projected to be 1.2 billion) (Choguill, 1996). Finally, Shen has estimated that 70% of the total global population will live in urban areas in 2050 (Shen, et al. 2010).

Constant economic and technological changes in last decades were caused by extensive processes of integration and globalization. By these processes many cities have been and still are constantly forced to face the common challenges in the context of competitiveness, sustainable development and now also engage into smart concepts.

The concept of smart cities describe an urban system of systems that modifies its behaviour in response to changes in the environment, monitoring its various components and acting accordingly to potential or actual changes of state in order to achieve a desired goal (Yovanof, Hazapis, 2009).

Cities require accurate and real-time information about the status of urban services in order to improve public safety and provide adequate infrastructure-based services such as safe drinking water, reliable electricity, and sustainable, safe and reliable transportation and communication. However, traditional cities cannot optimize this provision of services due to constantly changing conditions. In other words, a smart city provides the required infrastructure for citizens and officials to make more intelligent decisions (Khansari, Mostashari, Mansouri, 2013).

Growing demands on existing real estate projects are not important only in terms of energy and economic efficiency and friendly approach to the use of natural resources. They are also very closely related to the land use, land itself and its surroundings and also to urban development.

Sustainable urban development approaches

New urbanism, smart growth, and the ecological city are three sustainable urban development approaches. Smart growth refers to natural resource protection, regional collaboration, and economic development based on local capacity and resident participation (Khansari, Mostashari, Mansouri, 2013).

In the process of developing urban sustainability, limitations in natural resources, intra- and intergenerational equity, integration of economic, social and environmental priorities, and expansion of public participation in decision-making should all be considered (While, et al. 2004).

In the eco-city, land-use policies reflect the use of renewable energy, diverse transportation options, short travel distances, and urban density (Jepson, Edwards, 2010). For planners, the city should be considered a complex system consisting of both economic and environmental subsystems. Accordingly, planners require tools to manage natural resources, pollution, information, and trade (Campbell, 1996).

Another component of urban infrastructure is land use. To improve urban sustainability, land use strategies that rely on public transportation and compact living, and are aimed at reducing natural resource consumption, should be encouraged. Officials should, therefore, pursue a walkable, mixed-use model integrating high-performance buildings and infrastructures. Two important values of urban sustainability are compactness (density) and biophilia (human access to nature) (Minne, et al. 2011). In urban sustainability process, the personal appeal and societal benefits of neighbourhood living, where daily needs can be met on foot, are greatest in those neighbourhoods that have all the necessary attributes of compactness, completeness, connectedness and biophilia (Khansari, Mostashari, Mansouri, 2013).

Land use according Nibel et al. (2011) is related to the availability of natural resources and the protection of ecosystems, biodiversity, and climatic systems. According to Finnveden et al. (2009) land use will affect three of the areas of protection directly, namely, natural environment, natural resources and manmade environment, and human health indirectly. Changes in land use can have wide-ranging environmental consequences, including biodiversity loss, changes in emissions of gases affecting climate change, changes in hydrology and soil degradation (Marshall, Shortle, 2005). The higher the ecological value of the land area converted into built-up area the more significant the negative impacts on the environment.

On the other hand, changes of land use may also have positive effects on the environment. This is the case if contaminated area is turned into building area and thus has to be decontaminated before conversion (Häkkinen, et al. 2013).

The way land is used is one of the main drivers of global environmental change. In turn, environmental change, in particular climate change, increasingly affects the use of land as communities strive to adapt to, and mitigate, the effects of a changing climate (Lobley, Winter, 2009). Land consumption caused by residential development, economic growth and transportation belongs to the most serious environmental pressures on landscapes, particularly in urbanised areas (Nuissl, Haase, Lanzendorf, Wittmer, 2008). According Milŕ i Canals et al. (2007) defines three main impact pathways for land use: impacts on biodiversity, biotic production potential and ecological soil quality.

Examples of intelligent cities

Eco-city DONGTAN, CHONGMING, CHINA

The literal translation of the name means "East Beach" and is derived from the fact that it is located 25 km east from the city of Shanghai. The city was designed by the British group Arup in collaboration with Shanghai Industrial Investment Company as the concept of a living organism which is to be constantly develop - grow. "In the first phase of the project is a city designed for about 10,000 inhabitants, but this number should grow rapidly and by 2050 should reach 500 thousand inhabitants" (Baeumler, Ijjasz-Vasquez, Mehndiratta, 2012).

This fact creates a presumption that the Dongtan city will be even more with this population still meet the requirements of ecological city, or whether further construction turns it into chaotic, un-conceptual process and will suppress the original ecological approaches. The concept of the city is established on the principle of town without cars but without cars will be just some of its parts where services will be provided by electrified vehicles. The city has to be a counterpoint to the city of Shanghai, which is one of the largest emitters of CO2 emissions and one of the biggest polluters in China (Cohen, 2011). The main objective of the Dongtan project is therefore to provide new housing for inhabitants, which would correspond to the highest standards, but also encourage modern trends in urbanism. That's why this city was designed as a maximum ecological and smart. Basic characteristics of the Dongtan project are shown below in the Table 1 (Baeumler, Ijjasz-Vasquez, Mehndiratta, 2012). Sigrist (2009) argued that "while Dongtan project is considered as a progressive model of urban sustainability with the potential for successful replication throughout the world and holds great promise for applying new technologies toward the reduction of pollution and resource consumption, it also risks further marginalizing less powerful sectors of the population and counteracting ecological benefits by developing on protected land and paving the way for automobile commutes to the mainland. In addition, the construction of new eco-cities outside of urban centres does not solve the problems of existing cities, where the majority of the world's population lives. Therefore, such development cannot be considered a comprehensive model of urban sustainability". According Chang and Sheppard (2013) "the Dongtan seek to develop green technologies as a way to resolve the dilemma of being caught between urbanization and agriculture. This approach is also shaped by geography as enabling a self-sufficient development trajectory, and also its desire to attract a cosmopolitan population".

Size	The number of inhabitants	The beginning of construction	Urban structure	The original function of territory
86 sq. kilometres	10,000 – 500,000	2010	open	greenfield

Table 1: **Basic characteristics of the Dongtan project**
(*Source: Baeumler, Ijjasz-Vasquez, Mehndiratta, 2012*)

In the past, urban area was used for agricultural production but mainly its attractive location makes it predestined to another function. There began extensive development of land and started here un-conceptual process of forming plots that used inhabitants of Shanghai for rest and recreation activities. Already, the Dongtan City project should prevent uncontrolled development of this area.

The project takes full account of the use of natural conditions and predisposition in this area and tries to maximize their benefits. For example, ensuring the production of electricity from waste in the processing of rice, of which there is plenty, whereas in the surroundings of the city are numerous rice fields and this area is characterized by major producing of rice.

The City is able to produce energy from rice waste so much that it has a surplus. In addition to the area of rice fields there are also large areas of natural wetlands. This location of wetlands is an important home for migratory birds; therefore, the project takes into account the return of some parts of the agricultural land to the original state of wetlands and so was created a 3.5 km wide buffer zone across the island at its narrowest point. According to the project has preserved wetlands share reach almost 40% of the total area of the city, while being sufficiently protected against pollutants produced in the city.

The City is located on the coast of East China Sea, as there were problems related to sea-level rise and the flooding. This problem was solved by building of artificial lakes linked underground to the sea in various parts of the city, serving as communicating vessels, and regulates the level of the sea through water level of lakes built within the city (fig. 1).

Figure 1: **Eco-city Dongtan**
(*Source: Wood, 2007*)

In Dongtan has also been developed intelligent waste management, in which the waste is considered to be a potential source for further use and recycling. Up to 65% of the city is formed by parks, public gardens, and area around the town is preserved and consists of original wetlands and farms (fig. 2). The actual buildings in the city are designed to use prevailing winds to produce electricity and have green roofs with photovoltaic cells.

Figure 2: **Eco-city Dongtan**
(*Source: Wood, 2007*)

Nevertheless, by 2010, when the first phase was supposed to be finished, the completion of Dongtan was indefinitely postponed and most construction work was suspended (Sanford, 2010). The reasons for the apparent abandonment of the project included uncertainty concerning whether it would be funded by Arup or the government, as well as the failure of the developers to engage the local community in the planning process (Brenhouse, 2010).

MASDAR CITY, ABU DHABI, UNITED ARAB EMIRATES

The project of the Masdar City is realized by a development organization Masdar, which is a subsidiary organization of Mubadala Development Company and the project was designed by British architects Foster and Partners (fig. 3). The city is located 17 km from Abu Dhabi and has form a home for 50,000 inhabitants. It is expected that an additional 60,000 people here will commute because it is assumed that there will be located more than 1,500 companies (Bueren, 2011). It covers an area of approximately 6 square kilometres, which means that the City is relatively compact. All vehicles equipped with combustion engines have no entry into the City. For cars will be built around the perimeter of the City several support parking. City transportation will be provided by overhead railway, electric vehicles and underground, which will connect the Masdar City with the metropolis of Abu Dhabi. Individual car traffic will be able to be used only in the case that these vehicles will use clean energy sources. "According to experts, Masdar knowledge of technology and management coordination centre can be used for benefit of the whole planet" (Spirkova, et al. 2013).

Primary objectives to be achieved through Masdar City include: being powered by state-of-the-art renewable energy technologies (i.e. through photovoltaics, concentrated solar power, and waste-to-energy technology); optimizing water resources through water recycling, use of advanced technologies to treat water, and an overall reduction in water demand; the provision of a setting for a zero-waste lifestyle through reducing, reusing, recovering, and recycling waste materials; ultimately redefining urban transport through use of personal rapid transit and material rapid transit (Nnamdi, 2011). According Lau (2011) one the main disadvantages for the project, especially since the planning process has been controlled by the government for its own purposes, rather than responding to the concerns and desires of the local community. Indeed, the City is isolated from any other community by the surrounding deserts, and the high concrete base would prevent Masdar City from being naturally integrated with any nearby neighbourhoods that might exist in the future, raising the issue of social exclusion. Basic characteristics of the Masdar City project are shown below in the Table 2.

Size	The number of inhabitants	The beginning of construction	Urban structure	The original function of territory
6 sq. kilometres	50	2009	closed	greenfield

Table 2: **Basic characteristics of the Masdar city project**
(*Source: Masdar City, 2011*)

On the place of the current project was before the construction desert. Thus this place was greatly limited. The developer was able to exploit the strengths such as strong sunlight, wind climate and proximity of the attractive city and to adapt the project to these aspects. Even before the construction of the city itself was built near 22-hectare solar power plant with 87,777 solar panels, which took care of supplying the entire project during the construction process. The city in addition to solar power is also supplied by wind, geothermal and hydrogen power plant. Wind flow is ensured by windbreaks and ventilators located at the entrance to the city. Along the perimeter of the entire city is a buffer green zone, which serves as a protection against windblown dust and sand from the desert.

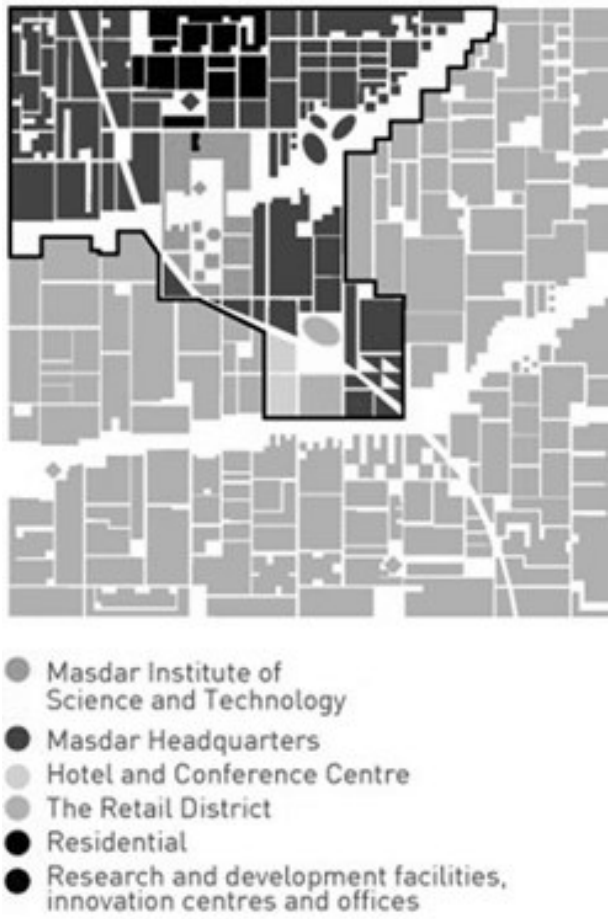

Figure 3: **Masdar City Master Plan**
(*Source: Masdar City, 2011*)

Water areas are placed exclusively in shaded places in order to minimize their vaporization (fig. 4).

Figure 4: **Masdar City**
(*Source: Kingsley, 2013*)

This project assumes a 60% lower water consumption, gained through solar desalination plant, 80% of the water used will be recycled and used long as possible, at the end is used for the cultivation of agricultural crops. The city is trying to reduce waste by means of biodegradable waste which is used as fertilizer, recyclable waste is recycled and the remaining waste is combusted at a local plant which converts the waste into energy. As Masdar City is located in the desert, it was necessary to provide coolness. This problem has been secured by architects through narrow streets on which adjacent buildings shall provide enough shade and whereas they are straight and air is blown into them by windbreaks is also secured sufficient air movement. The temperature on Masdar's streets is generally 15 to 20˚C cooler than the surrounding desert. On the main square are located 54 large-scale umbrellas, which are adapted to sunlight and moving together with the sun. Umbrellas are covered with solar panels and in addition to shielding they produce electricity. "There are also no light switches or water taps in the city; Movement sensors control lighting and water in order to cut electricity and water consumption by 51 and 55 percent respectively" (Kingsley, 2013).

TIANFU ECOLOGICAL CITY, CHINA

This project is implemented by the developer Beijing Vantone Real Estate Co., Ltd. together with massive support of the Chinese government. Tianfu Ecological City is a project of organic, sustainable, car-free city covering an area of 1.3 square kilometres, which is a satellite city outside Chengdu (fig. 5). This is the first project in China, which could be replicated in other locations throughout the country. The city should form housing for 80,000 residents, where also will be enough job opportunities. Pedestrian access within any sites in the city should be up to 15 minutes. "Tianfu City will be linked with the neighbouring city of Chengdu thru public transport network" (Smith, Hill, 2012). Transportation will be provided by the electric shuttles and space on the surface will be arranged as park landscaping and will serve as a communication for pedestrians and cyclists. Basic characteristics of the Tianfu Ecological City project are shown below in the Table 3 (Smith, Hill, 2012).

Size	The number of inhabitants	The beginning of construction	Urban structure	The original function of territory
6 sq. kilometres	50	2009	closed	greenfield

Table 2: **Basic characteristics of the Tianfu Ecological City project**
(*Source: Smith, Hill, 2012*)

Construction will be realized in the territory, which has so far been used only as agricultural land – so this will involve greenfield land. The project takes into account the preservation of farmland outside the city, which will be reserved for farming and public spaces at least 60% of the total of 800 acre area. Complete natural topography including valleys, rivers and water bodies will naturally be incorporated into the project without other significant artificial interventions (fig. 6). All residential units will be within the two-minute walking distance from public parks.

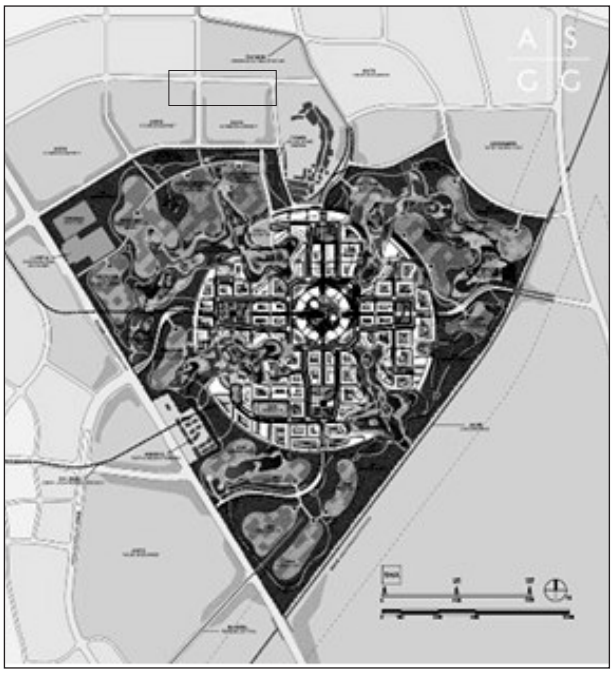

Figure 5: **Tianfu Ecological City Master Plan**
(*Source: Rahaman, 2014*)

Figure 6: **Tianfu Ecological City**
(*Source: Smith, Hill, 2012*)

In the project is proposed a complete reduction of energy consumption by 48% by using of large amounts of greenery, new materials and green roofs that naturally regulate the temperature of environment without the use the technology of air conditioning. All consumed electrical energy will be produced directly in the city from renewable sources by using solar panels, wind and water turbines. The heat will be accumulated during the summer months and in the winter months will be used for heating.

The latest combined production of electricity and water heating will be implemented in the power plant. One of the project goals is to reduce water consumption by 58% through its recycling and reuse and also will be used the system of rainwater capturing and its re-use as service water. "Another project goal is the reduction of waste production by 89% and by 60% of carbon dioxide, compared to a conventional city with a similar composition of the population" (Smith, Hill, 2012).

Discussion

As pointed out by individual authors: Aubry, C. et al. (2012); Shen, L. Y. et al. (2010); Yovanof, G. S., Hazapis, G. N. (2009); Khansari, N., Mostashari, A., Mansouri M. (2013); While, A. et al. (2004); Jepson Jr, E. J., Edwards, M. M. (2010) and others, concepts of smart cities in themselves take into account economic, social, environmental and technical aspects. It can be said that all the examples of projects has relatively sophisticatedly concepts regarding the urbanistic point of view (more e.g. Smith, A., Hill, G. (2012); Masdar City web-site). All of the above-mentioned projects have been implemented in the greenfield area. Currently the specifications of each particular territory creates limits for their design and realization. It shall also be said that the projects display other various deficiencies and have many critics:

Eco-city Dongtan project is considered as pioneering work leading to a more sustainable future. However, the project was not quite successful since in that project only the availability and quality of the smart infrastructures were considered, and the human dimension was ignored. As mentioned above, smart cities should aim at improving the quality of life for residents. In other words, in smart cities, governments and businesses invest in ICTs to improve sustainable development and quality of life, by providing smart urban infrastructures that will inform residents about the desired environmental agenda (Harter, et al. 2010). This project has relatively a lot of critics who argue that one sustainable project does not address the issue of existing large unsustainable Chinese cities where most of the population lives.

Masdar City project is considered by some sceptics only as an example of a luxury development of Abu Dhabi, which is designed especially for the rich population. It is also often criticized as an example of a global phenomenon of increasing division of the world into a highly technical, vast shapeless ghettos where issues such as sustainability has very little direct relevance.

Tianfu Ecological City is also considered a very promising project of sustainable modern city, but like the above mentioned projects does not address the current problems of other existing sites.

Approach to the design and implementation of similar projects are drastically different from the issue of the concept of sustainable concepts in existing urban structures. There currently stands out a different approach to the solved area (prevails built environment, especially brownfield areas) and in particular the social aspect (human dimension - participation of the population).

Conclusions

Smart cities offer a very promising solution to this need, by helping citizens and officials to develop sustainable behaviours and planning. The new information made available from such implementation can shift the social behaviour of citizens towards a more efficient and sustainable utilization of city resources, while allowing service providers and city government to provide services more efficiently and sustainably. In other words, smart cities will require innovation when it comes to planning, management and operation of their infrastructures and resources if they are to cope with the future demands of their citizens (Naphade, et al. 2011). The above-mentioned case studies of selected development projects have several common features, such as:

- specific approach to planning with respect to local conditions,
- energy efficiency, ·sustainable and energy self-sufficiency,
- environmental friendliness,
- high technological advances.

All these aspects are directed towards meeting concepts of sustainable Smart Cities. To achieve this objective fully are using technological innovations and innovative approaches in the creation of spatial plans, technical solutions for urban design and also proposals for the building itself, as well as innovative tools in the areas of financing and project management.

Last but not least here can be seen a different approach to the natural characteristics of the territory, through which projects are trying make the best to adapt. Each of the presented projects excelled at something else. In Masdar City, it was difficult adaptation to natural conditions of the desert and eliminating the negative effects by innovations in aerodynamics, such as the wind blowing into the city streets to cool them down, or appropriate placement of water surfaces into the city area.

In Dongtan City project it was mainly about the best use of given natural factors such as the use of waste from the rice to produce electricity and use physical principles as a protection against tidal waves.

Tianfu City project is characterized by its placement into the original natural environment and adapt to it without significant topographical interference, while keeping a large amount of greenery in the city, while the project should be duplicated in the future for several territories in the country. Even these projects represent profound progress in the central task of demonstrating the feasibility of "human-benefits" cities that purposefully connects environmental protection, economic opportunity, and an improved quality of life in a unified and potent vision.

Specially designed, self-contained eco-cities can be effectively used to stimulate sustainable development in existing neighbourhoods, but their architects should expect them to be incorporated into the larger community as environmentally conscious design is more broadly adopted in the future (Lau, 2011). Finally, it should be noted that these projects require for its realization a huge amount of funds which by its volume are far from projects realized at present for example in Europe.

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Richard Heriban

VARIABILITY IN INCOMES IN SLOVAK DISTRICTS – PANEL DATA ANALYSIS

Introduction

In order to speed up regional development and increase its qualitative side the regional developers must identify and understand what factors lay behind the development. The determinants of regional development have always been the target of various researches. While the theoretical research strives to build a model linking the regional differentiation tovarious factors and institutions, such as, for example, human capital, education, training and entrepreneurial environment (Armington, 2001) on formation of new firms, some goes into exploring the effects of the "digital" economy (Beer, 2000), the "learning" economy (Hudson, 1999 and Lundwall, 1994), the "knowledge" economy (Rayport, 2001) or even the "new" economy (Tapscott, 1996).

However, the regional development is a complex phenomenon that cannot be modelled explicitly. The theoretical models on one hand provide a more exact implicit apparatus that can be used to simulate the effects of the particular factors, but on the other hand, they are based on a number of simplifications and assumptions that depart from the real development on the ground. The latter problem is remedied by the empirical research that does not postulate explicit theoretical models, but calculates the effects in an implicit way, based on the empirical "black box" whereas the effects of particular variables are assessed using the statistical methods.

One of the techniques prominently used in the empirical estimations of complex models is the factor analysis, introduced by Charles Spearman. The method became popular in social sciences in estimating psychometric parameters in human performance tests, e.g. by Raymond Cattell.

Another way of researching the empirical problems is the operational analysis, represented by the Data Envelopment Analysis method(William Cooper).However, given that in our research we were not focusing primarily on the performance of the regions, but on their differentiation, we preferred the factor analysis, combined with the linear regression using ordinary least squares method (OLS) to explore the dynamic aspects of the effects of particular factors over time.

In our research we explore the links between the rates of economic development (as measured by the level of wages) and the various many factors driving it (based on a number of selected indicators as provided by the Statistical Office of the Slovak Republic and various other databases).

Before proceeding to the analysis, the variables collected from various above-mentioned sources were transformed into relative format (e.g. into percentages, shares, or normalized indexes) in order to remove the effect of variation in absolute magnitudes of the variables. Thus 19 variables were finally used in the analysis (as described in Table 1 below).

Evaluating the factors of regional economic and social development in Slovak district she need to group these factors by particular categories and to analyse these factors arose. Initially we planned to use the rate of spending as a determinative factor because it tends to be more stable and less prone to fluctuations than the rate of income. This however was not possible because of non-existence of such data on the levelrequired. That is why we approximate the rate of economic and social development by the rate of income and we research factors that affect it.

Data

From the municipal databases the following data was used:

Variables in the Demographic block		
total population	population of pre-productive age	population of productive age
population of post-productive age	number of pupils	number of graduates
number of unemployed graduates (grammar schools)	number of unemployed graduates (branch	natality
mortality	Immigration	emigration
weddings	Divorces	age index
number of people with health-insurance		average rate of sickness
Variables in the Economic block		
average nominal monthly wage	foreign direct investment rate	number of enterprises – personal entities
number of enterprises – legal entities	number of foreign-owned enterprises	number of small enterprises (< 50 employees)
number of medium enterprises (50 – 249 employees)	number of large enterprises (250+	rate of economic participation
Variables in the Living Infrastructure block		
number of hospitals	number of pharmacies	running water
sewage	unfinished apartments	finished apartments
Variables in the Social block		
ambulance availability	children's doctor	adults' doctor

Table 1: **List of variables**
(*Source: Regional statistics by the Statistical Office of Slovak Republic*)

Analysis

The data was in a panel for a 10-year period from 2003 to 2012. In order to remove the multicollinearity effect, owing to the vast number of variables, the method of factor analysis was used. The number of variables decreased. The result of the factor analysis can be seen in Table 2.

Pictures1 and 2 depict the results of regression analysis of the income rates within the particular years from 2003 till 2011 included. I.e. coefficients of an income regression function on 4 factors (Table 2).

As Table 2 shows, the 1st factor from 1st column groups economic factors together. At the same time, surprisingly health care variable comes in the same group. This is no contradiction whatsoever – pharmacies, to name a few, are commercial subjects – they concentrate in areas with purchasing power. The negative value of rate of sick population is also explainable – the lower the rate of sick in the population, the higher the economic contribution. In regions of low economic level people tend to use sickness-leave more frequently. Thus we call this factor the factor of economic and health infrastructure.

The 2nd factor is demographic and at the same time factor of labour. The factor begins by the rate of participation in the Rotated component matrix table. It is a demographic factor – it charts the demographic potential. The high percentage of urban population proves that the regions may age but have a good economic potential. Settlements in the east of the country are full of young people but economic growth is driven by urban population in a substantial way. Urban regions show demographic dynamics. We denote this factor as the factor of demographic development and labour market. It contains variables characterising the rate of urbanisation, economic activity as well as the mobility of population.

The 3rd factor begins at apartments with the rate of immigration being an important item. Elementary – where there are apartments there the people move to. The rate of individual entrepreneurship depends on this as well. We denote this factor the factor of housing infrastructure. It is correlated with an economic factor – with enterprises.

The 4th factor negatively correlates personal entities and the age index. In these districts there is a low rate of entrepreneurship and a high rate of unemployed graduates. Where there is a deficient economic activity there is a high number of unemployed (graduates). We denote this factor as the factor of labour market for youth. It is positively correlated with the rate of emigration. The age index is correlated negatively – a substantial number of young people are without jobs.

We use the factors estimated in the factor analysis for the entire data panel, as factor analysis within each particular year wasn't possible due to the small number of observations. I.e. the number of districts in relation to the number of variables (19 variables would require approximately 19x5=95 observations while we only have 79 districts at disposal).

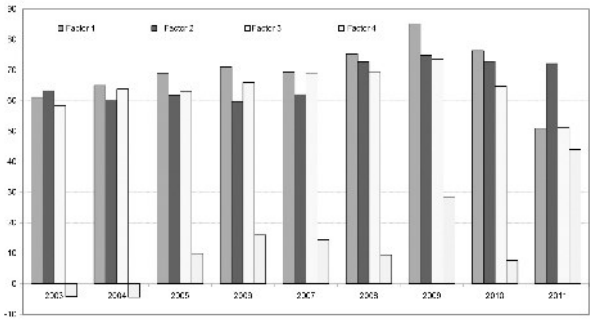

Figure 1: **Regression coefficients of individual factors per years**
(*Source: Author's calculations based on OLS regression*)

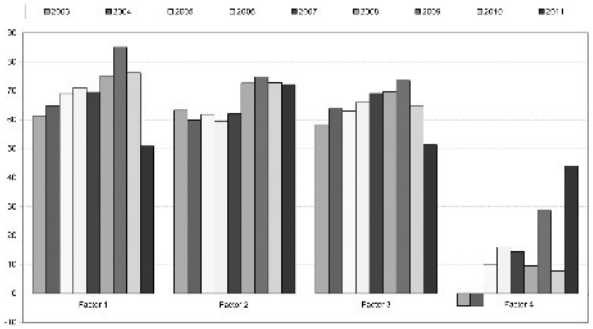

Figure 2: **Regression coefficients of individual factors per factors**
(*Source: Author's calculations based on OLS regression*)

Interpretation

Pictures 1 and 2 illustrate progress of the regression coefficients within the frame of regressions estimated independently for each calendar year from 2003 until 2011. Thus this is an estimation based on cross-section sample of all districts in a given calendar year,in contrast to the initial regression which was estimated on a panel data sample consisting of all of the districts and all of the years from 2003 till 2011. Individual regressions for particular years have been estimated to assess the progress and dynamics of effects of the individual factors. It must be regarded that the independent variables (Factors 1 to 4) originate from a factor analysis done on an entire panel sample as there wouldn't have been a sufficient number of observations for a separate factor analysis. Thus the independent variables are in a certain way linked with the entire time period of 2003 till 2011, nevertheless the values of the coefficients within particular regressions are specific for each of the years.

An alternative way to assess the dynamics of particular factors would have been a panel sample regression which would include interaction members for individual factors and years. Accordingly, just as mentioned above, the number of such generated variables would have been too high compared with the number of observations and a separate regression would have held too few degrees of freedom.

The development of coefficients of Factor 4 (labour market for the youth described by the share of unemployed school graduates in the aggregate number of school graduates) requires a dedicated explanation. In the beginning of the researched period the Factor had negative coefficients i.e. the relation between the rise of wages and the above-mentioned share was opposing: with a higher share of unemployed graduates the wages sunk and vice-versa. This could imply a situation in which the competition for available jobs exerts pressure on the level of wages. With time the effect of Factor 4 starts to exhibit positive and growing values, i.e. the growth of wages and the growth of the share of unemployed graduates move in an identical direction. This scenario could indicate the deepening structural problems on the regional labour markets where there coexists the supply of labour force from the graduates who are nevertheless unemployable in already existent job slots. That is why there concurrently exists an offer of free jobs and the employers have to offer higher wages in order to attract adequate qualified work force.

By comparing the value of individual regression coefficients in individual calendar years (Pictures 1 and 2) some rather substantial development tendencies appear. From the development dynamics' aspect of all coefficients, the period researched by us can be divided in to 2 time periods: (a) 2003-2008, (b) 2009-2011. In the above-mentioned periods the dynamics of development of individual factors were opposing. I.e. while in the period of 2003-2008 the effect of Factors 1 to 3 was positive and grew (or wasn't decreasing respectively in the case of Factor 2), the effect of Factor 4 started at negative values and exhibited considerable fluctuation. From 2009 on these tendencies changed, while the effect of Factors 1 to 3 started to diminish (in case of Factors 1 to 3 even considerably) while the effect of Factor 4 (even though accompanied with a considerable fluctuation) started to grow significantly.

The mentioned tendencies can be interpreted in a way that the economic crisis which entered the labour market in 2009 changed the modus operandi of the labour market and the corresponding mechanism of relations captured in our model in a significant way. Factors which the effects of grew in the period before the economic crisis became less important after the crisis broke out. I.e. the effect thereof on the level of incomes diminishes. On the contrary to Factor 4 which, linked to the progress of labour market for the youth, despite considerable fluctuations, displays a growing importance after the crisis.

Conclusions

In this paper we performed an empirical analysis of the regional differentiation of wages among the Slovak districts, its development over time, and the factors behind it. We used a panel of annual data on all the Slovak districts, spanning a 10-year period from 2003 to 2012.

The available variables originating from regional statistics described economic, social and infrastructure situation in the districts. We used factor analysis in order to remove the multicollinearity effect among the variables and to identify the underlying salient factors that drive the wage differentiation. Based on the exploratory factor analysis (based on PCA method and varimax rotation), the variables were grouped into four broader blocks that were labelled as: Factor 1 - Economic and health infrastructure, Factor 2 - Demography and labour market, Factor 3 - Housing infrastructure, and Factor 4 - Labour market for youth.

From the development dynamics' aspect of all coefficients, the period researched by us can be divided in to 2 time periods that were characterized by opposite regimes in terms of the development of coefficients: (a) 2003-2008, (b) 2009-2011. Not surprisingly, the time break is identical with the onset of the economic crisis, which started in 2008, but its effects on the labour market were lagged until 2009.During the period of 2003-2008 the effect of Factors 1 to 3 was positive and grew, or wasn't decreasing in the case of Factor 2, the effect of Factor 4 started at negative values and exhibited a considerable fluctuation. From 2009 on these tendencies changed: while the effect of Factors 1 to 3 started to diminish (in the case of Factors 1 to 3 even considerably), the effect of Factor 4 (even though accompanied with a considerable fluctuation) started to grow significantly.

The mentioned tendencies can be interpreted in a way that the economic crisis changed substantially the modus operandi of the labour market and the underlying mechanisms (factors) driving the level of wages.

	Component			
Variables	**1**	**2**	**3**	**4**
Legal entities/ per 1000 pop.	0,91	0,225	0,22	
Foreign-owned enterprises / per 1000 pop.	0,88	0,159	0,202	
Enterprises 50-249 emp. / per 1000 pop.	0,879	0,199	0,262	
Enterprises 250+ emp. / per 1000 pop.	0,871	0,212	0,231	
Adults' doctor / per 1000 pop	0,847	0,131		
Pharmacy / per 1000 pop.	0,729	0,227		-0,153
FDI (1000 EUR)	0,713	0,177	0,344	
Hospital / per 1000 pop.	0,655	0,156		
Rate of participation (ec. active pop./overall pop.)		0,781	0,134	
Children's doctor / per 1000 pop.	0,256	0,76		
% urban pop.	0,391	0,724		
Emigration (per 1000 pop.)	0,5	0,629	0,168	0,343
Age index	0,494	0,544	0,141	-0,287
Average % of sick pop.		-0,494	-0,327	0,106
Unfinished apartments / per 1000 pop.		0,108	0,909	
Finished apartments / per 1000 pop.	0,103		0,896	
Immigration (per 1000 pop.)	0,396	0,44	0,615	0,245
Personal entities/ per 1000 pop.	0,483		0,573	-0,211
Unemployed high school graduates/high school graduates	-0,109			0,896

Table 2: **Factor analysis - Rotated Component Matrixa**
(*Source: Author's calculations*)

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.aRotation converged in 5 iterations.

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Martina Chrančoková

NETWORK STRUCTURES OF STUDENT MIGRATION IN EUROPE

Introduction

Nowadaysscientists have begun to call the last 20 years as the age of migration. Migration is defined as the movement of a person or group of persons from one geographical unit to another across administrative and political boundaries in order to settle definitively or temporarily at a place other than the place of origin of the person (IOM, 2014). Migration is a direct consequence of globalization around the world. Russel King (2007) said that "today, in globalized world human migration takes place much faster and easier."It is contributed to the agreement ofmovement and the progress in various areas (the progress in transport, advances in information technology, etc.). Literature shows that the language in which it is planned to communicate and studyhas a significant impact on decision. The most significant influence on the choice of destination is the country of origin of the student (Baláž, 2010).

Migration is the subject of many scientific studies the most common topic is labor migration. This article is focused on the temporary migration of students (foreign student - a citizen of one country studying in another country, international student - a citizen of one country studying in several countries) with emphasis on the analysis of flows between European countries over time in the period 1998 to 2012.The objects of the study were specific flows of foreign students who are dedicated to the study of tertiary education, more specifically ISCED 5 and ISCED 6 (Schneider, Silke, Kogan, 1997).Monitoredflow directions should be from the country of origin to the destination country in which the foreign student was studying. Examinedperiod was divided into three five-year periods (1998-2002, 2003 -2007, 2000-2012).

To Each scheduled country we assigned five most popular destinations, so we watched profiling countries which we subsequently analyzed.The number of students from one country to one destination we identified as one flow. Data for the period 1998 to 2011 have been processed from the database (OECD, 2013), data for 2012 were processed from the Eurostat database (Eurostat, 2013). The research sample consisted of 31 countries. These are: Belgium, Bulgaria, Czech Republic, Denmark, Estonia Finland, France, Greece, Ireland, Latvia, Lithuania, Luxembourg, Hungary, Germany, Norway, Italy, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom. Cyprus, Malta, Croatia and Liechtenstein provide data only from 2008 to 2012.For each analyzed time period we have created a network structureswhich we subsequently analyzed in the article. We visualized network spatial structures, too.

Methodology of network structures

Network structures that we have created by using Gephi helped us to show relations between the countries of Europe. Structures were generated using an algorithm Fruchterman Reinhold. This algorithm is based on minimizing energy structure by moving nodes (European countries) and changing forces between them (flows between countries). While minimizing the energy structure of the nodes gradually stopped and gradually reaches a steady state. The Nodes are in our case the European countries with the parameters: language and geographic inclusion of countries in Europe. The flows are determined by the number of migrant students between nodes (Fruchterman, Reinhold, 1991).

Another function we used was a function of modularity. Modularity is a feature that is part of the Gephi and serves to optimize the amount. It can be seen as an index of the quality of the distribution structure in substructures (communities) (Zhou, Wang, Wang, 2012). The impact of the creation of substructures have variable number of students and number of flows countries to destinations.The method consists of two phases.The First is optimization of modularity in specific flows. The Second phase finds in the flows similar properties and creates a new network. This procedure is iterative, unless obtain maximum modularity (Louvian Methods, 2014). On the basis of thenetwork modularity function, we can visually identify the flows to the three substructures (communities).

Spatial representation flows in Europe in the period 1998-2012

We analyzed 135 flows among countries it means the flows of 27 countries.Countries like Cyprus, Malta, Croatia and Liechtenstein have data available for the period 1998-2007. By three structuralgraphs we defined peripheral centers of gravity. The centers of gravity (middle structures)are those countries, to which flows the heads fromthe majority ofperipheral (peripheral) countries. Peripheral countries are the remaining countries in the structure. Larger flows, it means the flows with a larger number of students, are shown in the article with thicker and darker curve. The structures are illustrated for the three analyzed time periods.

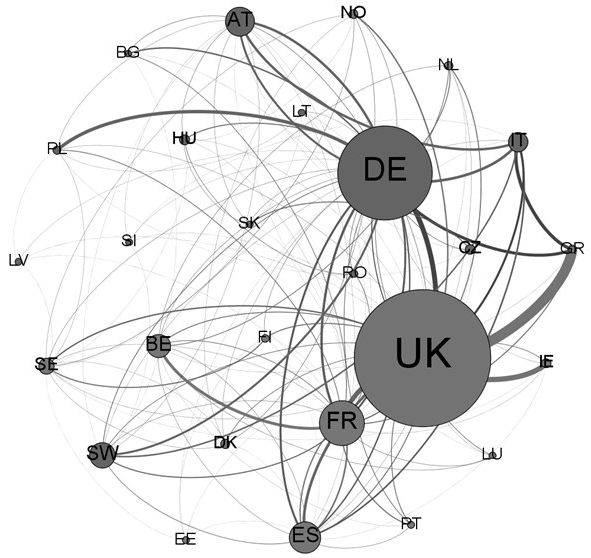

Figure 1: **Network structure of flows in Europe for the period 1998-2002**
(*Source: OECD, own calculations*)

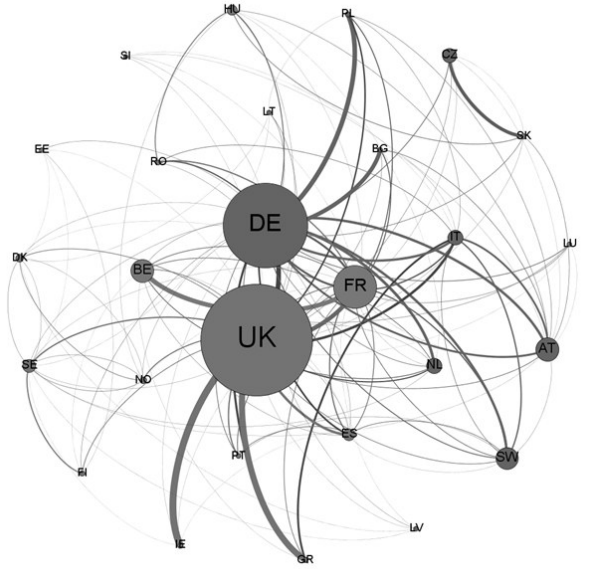

Figure 2: **Network structure of flows in Europe for the period 2003-2007**
(*Source: OECD, own calculations*)

After analyzing structures we found, that there were created three identical gravity centers. The Gravity centers are those to which leads the majority of flows.They are Great Britain, Germany and France. The remaining countries wereidentified as peripheral.

In The network structure there werecreated 3 communities (substructures).Communities werecalled by name of gravitational centers: British, German and French

In the first analyzed period (1998-2002) the British world consisted of 5 countries,in the second period (2003-2007) this number was increasedto 10 countries, in the

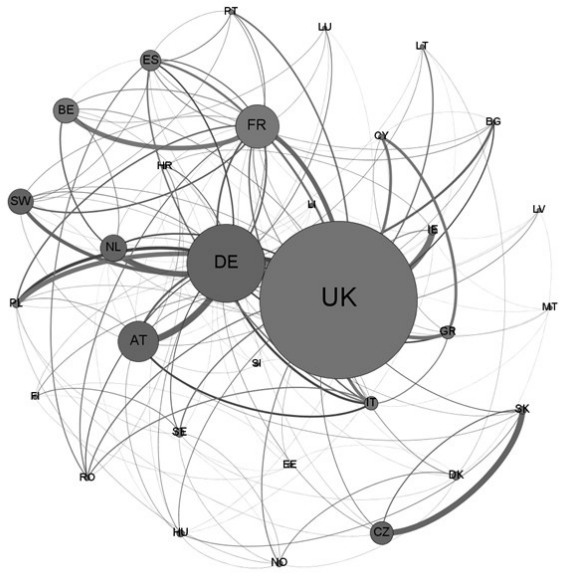

Figure 3: **Network structure of flows in Europe for the period 2008-2012**
(*Source: OECD, own calculations*)

third period (2008-2012 this community) already consistedof 16 countries out of 28 analyzed countries in Europe,. To German communities were in the first period assigned 14 countries, in the second period 11 countries, in the third period 9 countries. French community in the first period consisted of a network of nine countries, in the second period of 7 countries and in the third period it hadonly 3 countries.

Conclusions

The Strongest flow in the first twoanalyzed periods is the flow of Greek students to the UK, in the third analyzed period it is the flow of German students toAustria. In all three analyzedperiods there was the second strongest flow of Irish students to the UK.Spatial representation flows helped us to better perceive the flow of students between countries.We found that the Selection of the destination for students remained stable and the lucrative destinations (gravity centers)remained the same for 15 years.For all three analyzed period, the centers of gravity are United Kingdom, Germany and France.

The movement of students from the remaining countries of Europe has established a network of flows. The method of network structures and functions of modularity we managed to assign countries to some communities. After 15 years of analysis of flows of students, we found that the British community is biggermore than twice. German and British community is gradually reduced.Countries that remained stable for a full 15 years remained faithful to one country, are Norway, Austria, Czech Republic, Switzerland, Greece and Luxembourg the

flows of students of Other countries has changed their centers of gravity All three centers of gravity are the countries whose official language is considered to be world language. Comparing these communities, we found that the English language is the most used throughout Europe and even the countries those prefer another language as the world language d began to focus on English language.The British community is steadily increasing. There exist much more Factors that affect the flow of students (trade policy of the country, the educational system of the country, neighborhood and languages proximity, etc.)

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John T. Nthengwe

FUNDING AND FINACING REAL ESTATE PROPERTIES - CHANGING RISKS TO OPPORTUNITIES

Introduction

PFinancing sources for real estate properties include mortgage banking firms, savings and loan institutions, regional banks, insurance companies, and private investors. Real estate property financing can take on very different terms, and the way deals are structured is based on a number of factors including anticipated use of the property, anticipated returns from the property, Geography, type of real estate, Size of real estate, perceived risk to lender and market conditions.

Each of these areas must be examined by the business owner prior to seeking real estate property financing. Business owners then need to examine the type of loans offered by lenders in accordance with their needs and anticipated growth. While obtaining financing for residential real estate, the transaction is based on the value of the home at the time of the sale and commercial real estate financing will be based somehow on the value of the business in the future.

While some lenders specialize in specific types of commercial ventures, such as warehouses, retail operations, or apartment complexes, others provide across-the-board financing to a wide variety of commercial ventures. For the business owner, the key to starting the process is to have the necessary paperwork in order. Despite the many types of financing and types of commercial real estate, lenders remain primarily concerned with the level of risk they'll be taking. But before we go further let's look at types of real estate properties in regards to financing, then we will go ahead to talk about types of loans and mortgages before concluding with the risks which can be turned into an opportunities.

TYPES OF REAL ESTATE PROPERTY IN REGARD TO FINANCING

- **Stabilized Properties**

Permanent financing is for stabilized properties. Common characteristics of stabilized properties are

Occupancy: The property is fully occupied.

Rents: Property rents are at market rates.

NOI: The net operating income is "stabilized," meaning there will be little growth in the future.

- **Value Added Properties**

Typically are financed by bridge loans. Common characteristics of unstabilized or value added properties are:

Occupancy: May not be fully occupied.

Rent roll: May not have a good tenant mix.

Rents: May be below market rates.

- **Distressed Assets**

This type includes Land and new Construction. These properties typically require "specialized" financing.

TYPES OF LOANS AND MORTGAGES FOR REAL ESTATE FUNDING

If you're in the market for a house but don't have the savings to pay for the entire property with cash, you can get a residential mortgage to cover the difference between your down payment and the sale price of the house.

A residential mortgage is a common legal agreement in which an individual borrows money from a bank or person to buy property such as a house or a condominium. A mortgage agreement typically states that the borrower must repay the borrowed money and any interest to the lender on a predetermined schedule. Should the borrower fail to pay per the contractual schedule, the lender typically has a legal right to take possession of or foreclose on the property, which is the security for the loan. Below you'll find definitions of loan types for some of the most common mortgages available

Fixed-Rate Mortgages (FRM)

Fixed-rate mortgages are the safest bet if you always want to know what you owe. Generally repaid over a period of 15, 20 or 30 years, the interest rate and monthly payments of principal and interest for fixed-rate mortgages are locked in for the duration of the loan. If you can secure a fixed-rate mortgage, you limit the volatility of your loan and know exactly what your payment will be for the lifetime of the loan.

Fixed-rate mortgages are the most classic form of loan for home and product purchasing in the United States. Fixed rate mortgages are usually more expensive than adjustable rate mortgages. Due to the inherent interest rate risk, long-term fixed rate loans will tend to be at a higher interest rate than short-term loans. The relationship between interest rates for short and long-term loans is represented by the yield curve, which generally slopes upward (longer terms are more expensive). The opposite circumstance is known as an inverted yield curve and occurs less often.

The fact that a fixed rate mortgage has a higher starting interest rate does not indicate that this is a worse form of borrowing compared to the adjustable rate mortgages. If

interest rates rise, the ARM (adjusted rate mortgage) cost will be higher while the FRM (fixed rate Mortgage) will remain the same. In effect, the lender has agreed to take the interest rate risk on a fixed-rate loan. Some studies have shown that the majority of borrowers with adjustable rate mortgages save money in the long term, but that some borrowers pay more. The price of potentially saving money, in other words, is balanced by the risk of potentially higher costs. In each case, a choice would need to be made based upon the loan term, the current interest rate, and the likelihood that the rate will increase or decrease during the life of the loan.

Adjustable-Rate Mortgage (ARM)

Also known as variable rate or tracker mortgages, adjustable rate mortgages are designed to adjust to match the market after an initial fixed rate period. For instance, a 5/1 arm will start to adjust to an index such as the one-year Treasury or the Cost of Funds Index after a five-year period at a fixed loan rate. ARM loans can be appealing because they are often packaged with low initial rates, but once the rates adjust they can potentially cause dramatic and unpredictable swings in mortgage payments that are difficult to budget for.

Variable rate mortgages are the most common form of loan for house purchase in the United Kingdom, Ireland and Canada but are unpopular in some other countries such as Germany. Variable rate mortgages are very common in Australia and New Zealand. In some countries, true fixed-rate mortgages are not available except for shorter-term loans; in Canada, the longest term for which a mortgage rate can be fixed is typically no more than ten years, while mortgage maturities are commonly 25 years.

ARMs generally permit borrowers to lower their initial payments if they are willing to assume the risk of interest rate changes. There is evidence that consumers tend to prefer contracts with the lowest initial rates, such as in the UK where consumers tend to focus on immediate monthly mortgage costs. Decisions of consumers may also be affected by the advice they get, and much of the advice is provided by lenders who may prefer ARMs because of financial market structures.

In many countries, banks or similar financial institutions are the primary originators of mortgages. For banks that are funded from customer deposits, the customer deposits will typically have much shorter terms than residential mortgages. If a bank were to offer large volumes of mortgages at fixed rates but to derive most of its funding from deposits (or other short-term sources of funds), the bank would have an asset-liability mismatch due to interest rate risk: in this case, it would be running the risk that the interest income from its mortgage portfolio would be less than it needed to pay its depositors. In the United States, some argue that the savings and loan crisis was in part caused by this problem, that the savings and loans companies had short-term deposits and long-term, fixed rate mortgages, and were caught when Paul Volcker raised interest rates in the early 1980s. Therefore, banks and other financial institutions offer adjustable rate mortgages because it reduces risk and matches their sources of funding.

Banking regulators pay close attention to asset-liability mismatches to avoid such problems, and place tight restrictions on the amount of long-term fixed-rate mortgages that banks may hold (in relation to their other assets). To reduce this risk, many mortgage originators will sell many of their mortgages, particularly the mortgages with fixed rates.

For the borrower, adjustable rate mortgages may be less expensive, but at the price of bearing higher risk. Many ARMs have "teaser periods", which are relatively short initial fixed-rate periods (typically one month to one year) when the ARM bears an interest rate that is substantially below the "fully indexed" rate. The teaser period may induce some borrowers to view an ARM as more of a bargain than it really represents. A low teaser rate predisposes an ARM to sustain above-average payment increases.

Interest-Only Mortgage

If you expect your income to improve over time and are bullish on the real estate market and your ability to match a growing mortgage payment in the future or refinance, interest-only loans can be a good option. In the initial five- or ten-year period of the loan, the borrower only pays interest – no principal – meaning a smaller overall mortgage payment. At the end of the interest-only period, either a balloon payment for the balance of the mortgage principal may be due or the payments may increase to pay off the principal within the remaining period of the loan. Interest-only loans are sometimes generated artificially from structured securities, particularly collateralized mortgage obligations. A pool of securities (typically mortgages) is created, and divided into tranches. The cash flows that are received from the underlying debts are spread through the tranches according to predefined rules, an Interest-only (IO) loan is one type of tranche that can be created, it is generally created in tandem with a principal only (PO) tranche. These tranches will cater to two particular types of investors, depending on whether the investors are trying to increase their current yield (which they can get from an IO), or trying to reduce their exposure to prepayments of the loans (which they can get from a PO). The investment returns on IOs and POs depend heavily on mortgage prepayment rates and permit investors to benefit from different prepayment expectations.

Many homeowners saw the values of their homes increase by as much as four times its price in some markets in a five-year span in the early 2000s. Interest-only loans helped homeowners afford more homes and earn more appreciation during this time period. However, interest-only loans have contributed greatly to creating the subsequent housing bubble situation, because many borrowers could not afford the fully indexed rate. Interest-only loans may turn out to be bad financial decisions if

housing prices drop, causing those borrowers to carry a mortgage larger than the value of the house, which in turn will make it impossible to refinance the house into a fixed-rate mortgage.

Private Financing

Private financing, also referred to as private money, can be a good option for people who have been through bankruptcy, foreclosure or other financial troubles and are looking to buy a house. This is a financing method where a company or individual person may provide a mortgage loan to a non-conforming residential buyer who does not qualify for a bank loan. These typically are considered high risk and therefore are likely to carry higher interest rates especially if the loans are high-risk. They are also largely unregulated. Lenders are required to comply with lending laws at the state and local level but not necessarily with banking regulations.

In US and many other countries, private money lenders must comply with state laws. They are not exempt from banking laws. However they may be exempt from routine regulation such as banking exams etc. Further, if the loan is made to a consumer, the private money lender may have a limit on how many loans they may make in a particular state without being required to have a banking license. In the State of New York a private lender may make no more than five loans before being required to be a licensed lender.

It is not advised for residential homeowners and should be considered only for business capital and with the careful advice and oversight of an accountant and real estate attorney as the collection methods may be more aggressive in the event a borrower cannot repay. Private investors do not usually have the means or interest in long protracted workout agreements, and will usually go to court quickly as a means of recovering their monetary investment.

Hard Money Loan

Another option for properties that don't qualify for traditional bank financing but have a potential buyer with enough cash for a down payment, seller carryback and hard money loans are possible options for advancing a residential property sale. A seller carryback is when the seller of a property finances a percentage of a loan. Hard money loan is when a mortgage is designed to cover just the loan-to-value ratio on a property. Typically, a down payment or some other kind of collateral is required from the borrower to secure this type of loan.

A hard money loan is a species of real estate loan collateralized against the quick-sale value of the property for which the loan is made. Most lenders fund in the first lien position, meaning that in the event of a default, they are the first creditor to receive remuneration. Occasionally, a lender will subordinate to another first lien position loan; this loan is known as a mezzanine loan, a second lien or a junior lien.

Hard money lenders structure loans based on a percentage of the quick-sale value of the subject property. This is called the loan-to-value or LTV ratio and typically hovers between 60 and 70% of the market value of the property. For the purpose of determining an LTV, the word "value" is defined as "today's purchase price." This is the amount a lender could reasonably expect to realize from the sale of the property in the event that the loan defaults and the property must be sold in a one- to four-month timeframe. This value differs from a market value appraisal, which assumes an arms-length transaction in which neither buyer nor seller is acting under duress.

Below is an example of how a commercial real estate purchase might be structured by a hard money lender:

(1) 65% Hard money (Conforming loan)
(2) 20% Borrower equity (cash or additional collateralized real estate)
(3) 15% Seller carry back loan or other subordinated (mezzanine) loan

Hard Money Mortgage loans are generally more expensive than traditional sub-prime mortgages. Private investors are generally only willing to create hard money loans in return for a very high interest rate (often about 11.5% plus five points for residential home purchases).

All hard money borrowers are advised to use a professional real estate attorney to assure the property is not given away by way of a late payment or other default without benefit of traditional procedures that would require a court judgment.

Bridge Loan

A bridge loan, also termed a swing loan or gap financing, is a short-term, temporary loan used to secure a purchase until longer term financing is arranged.

A bridge loan can be used by someone to buy a new home before selling his old one. The bridge loan will provide him with the necessary funds to finance a new home, with the intention that it will be repaid with the proceeds from the sale of his old home.

Bridge loans are as well used for commercial real estate purchases to quickly close on a property, retrieve real estate from foreclosure, or take advantage of a short-term opportunity in order to secure long-term financing. Bridge loans on a property are typically paid back when the property is sold, refinanced with a traditional lender, the borrower's creditworthiness improves, the property is improved or completed, or there is a specific improvement or change that allows a permanent or subsequent round of mortgage financing to occur. The timing issue may arise from project phases with different cash needs and risk profiles as much as ability to secure funding.

A bridge loan is similar to and overlaps with a hard money loan. Both are non-standard loans obtained due to short-term, or unusual, circumstances.

The difference is that hard money refers to the lending source, usually an individual, investment pool, or private company that is not a bank in the business of making high risk, high interest loans, whereas a bridge loan refers to the duration of the loan.

A property may be offered at a discount if the purchaser can complete quickly with the discount offsetting the costs of the short term bridging loan used to complete. In auction property purchases where the purchaser has only 14–28 days to complete long term lending such as a buy to let mortgage may not be viable in that time frame whereas a bridging loan would be.

In South African law immovable property is transferred via a system of registration in public registries known as Deeds Offices. Given the delays resulting from the transfer process, many participants in property transactions require access to funds which will otherwise only become available on the day that the transaction is registered in the relevant Deeds Office.

Bridging finance companies provide finance that creates a bridge between the participant's immediate cash flow requirement and the eventual entitlement to funds on registration in the Deeds Office. Bridging finance is typically not provided by banks.

Various forms of bridging finance are available, depending on the participant in the property transaction that requires finance. Sellers of fixed property can bridge sales proceeds, estate agents bridge estate agents' commission, and Mortgagors Bridge the proceeds of further or switch bonds. Bridging finance is also available to settle outstanding property taxes or municipal accounts or to pay transfer duties. Bridge loans are considered risky because it is hard to ascertain when the first home will be sold. A homeowner with a bridge loan may be forced to pay two mortgages for an extended period if his home does not sell quickly. In addition, bridge loans carry higher interest rates than regular mortgages and usually include additional fees that add to their cost. Bridge loans may also have prepayment penalties if the loan is paid off early. Read and understand all terms and aspects of the bridge loan before signing.

Take into account all your options before considering a bridge loan. If you found a new home that you don't want to lose and you're confident that your old home will sell quickly, a bridge loan may give you the flexibility to buy a new home before selling your old one.

How to Minimize Risk in Real EstatePropertyFinancing

As see in chapter 1 above a lender as well as a borrower is subjected to risk of losing the property or even other adverse risks like bankruptcy etc. But as an English saying goes, prevention is better than cure, prior to lending or borrowing to finance real estate property the following documentation should be checked;

- Income and expense statement for the property demonstrating a solid incomestream;
- Financial statements on all principals involved as owners of the property;
- Profiles of the management team;
- Property appraisal;
- Financial statements on the borrowing entity;
- Plans, including construction blueprints (if available) for the use of the property.

Unlike most residential real estate transactions, the potential borrower is asked to pay 1 to 2 percent of the terms of the loan (referred to as "standby points") to show a commitment to the deal. This amount is refunded once the loan is closed. If the lender decides to offer a loan, a commitment letter is presented with their terms included. The loan agreement will usually include the length of the loan, interest rates (fixed or variable), and what the loan is for (new construction, the purchase of an existing property, refinancing). As the borrower, the business owner needs to see that the terms will allow the business to grow, and not derail such progress. Such a commitment letter or loan agreement will likely also include:

- Closing conditions.
- Owner occupancy requirements.
- Affirmative and negative covenants regarding what the borrower does and does not agree to do.
- Representation and warranties.

Once the lender and borrower have negotiated and come to mutually agreeable terms, the closing process follows, and it is usually more complex than that of a residential mortgage. Issues such as tenants, leases, environmental reports, and even zoning ordinances may all need to be factored into the closing process, which can take up to two or three months, in some cases.

The key to real estate property financing is to find a lender that will meet the needs of the business, and then allow the business to grow. The right business can increase the value of the real estate it occupies, but only under an agreement that allows it to move forward.

In the lenders perspective, to minimize risk and increase collectability, lenders may choose to offer only safe-harbor qualified mortgages. That may produce a higher-value mortgage portfolio that big scrutinizers will accept. But that strategy may also shrink the universe of acceptable borrowers, increase competition for quality mortgages and decrease profit potential. Home builders will begin to face the prospect that as housing continues to improve, a range of prospective buyers may not be able to find financing.

Perhaps the most significant indirect new risk for lenders in this case will be the potential for fair-lending and discrimination charges by a variety of agencies as moderate- and low-income borrowers are left on the sidelines. Regulators are poised to address this issue armed with their recent emphasis on disparate impact liability, often referred to as no-fault discrimination

Alternatively, lenders may decide to expand their market and test the protections of rebuttable presumption QM loans, or even make non-QM loans. The value of that portfolio may be impacted by the collectability of non-QM loans (i.e., the defenses to repayment), reps, warranties and haircuts required to make them acceptable to the secondary market, the extent to which they may collateralize institution borrowings and other ancillary risks, such as fair-lending discrimination charges related to risk-based pricing.

TIPS ON MINIMIZING RISKS

If you are contemplating acquiring another home loan to finance the purchase of an investment property, here are some tips to minimize the risk.

· Think long term

"You always have to buy a property thinking you'll hold on to it for eight to 10 years. If you don't want to do that, trading shares might be a better investment for you," says Toby Primrose, director of Australian Property Investor, a company that helps investors manage their property portfolios.

Once you factor in taxes, legal fees and other costs associated with selling, you will be slugged with a bill of approximately €30,000 on a €400,000 property, according to Primrose. If you plan to sell too soon after you buy, you may even lose money on the sale once you subtract these costs.

Property prices have historically risen in Australia, but it doesn't happen overnight. As Primrose writes on his company website: "The only question you need to ask as an investor is how long I will have to wait to double my money; the answer is usually seven to nine years."

· Do your homework

Buying a property is an expensive enterprise, therefore doing your homework is crucial. Research capital growth trends, rental yields and vacancy rates in your chosen suburbs to ensure you are buying in the best possible and least risky area. Apply the same diligence in researching and comparing home loans to get the most suitable option for your needs, factoring in other financial commitments. Check how the banks are doing like for example in Slovakia you need to know which bank is having less interests rates etc. Such information like shown in figure 1 and 2 below can help you in such cases;

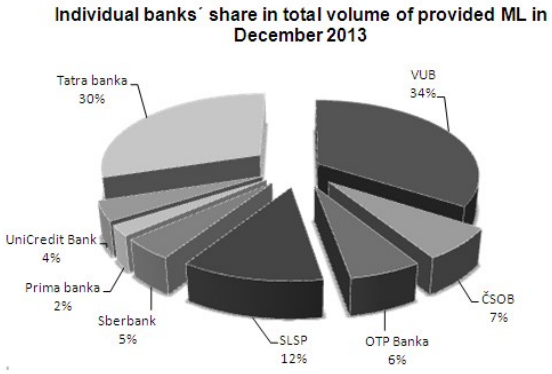

Figure 1: **Mortgage Loan provisions in Slovak banks**
(*Source: National Bank of Slovakia, www.nbs.sk,2013*)

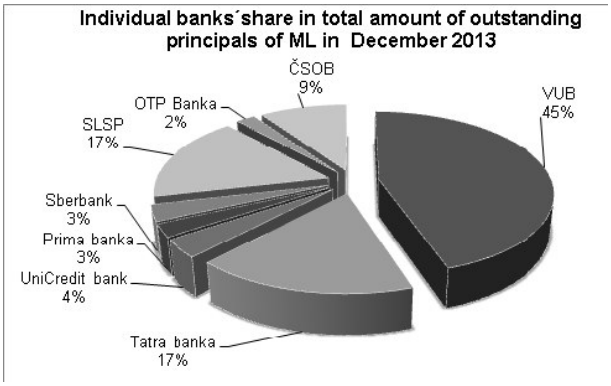

Figure 2: **Amount of Outstanding principals of mortgage loans by Slovak banks**
(*Source: National Bank of Slovakia, www.nbs.sk,2013*)

Such type of charts can help you to assess where to get your loan and below table is an example of guidance on where to get the type of loan you need.

· Don't be seduced by the 'flipping' phenomenon

Spurred on by real estate TV programs, a growing number of people think they can buy a run-down or off-the-plan property and sell it quickly for a tidy profit. That's one of the riskiest things a property investor can do. It takes five to seven years just to break even when you buy off the plan.The most effective way to minimize risk is to avoid trying to identify the next hot spot or "reading" the market. Even the experts can get it wrong.

· Once you buy, be smart

One of the biggest concerns of any property investor is the risk of not being able to rent their property easily and enduring periods of no rental income. There are two reasons why a property remains vacant, It's either in a state of disrepair and therefore unattractive to tenants, or the rent is too expensive. The advice is, Be diligent about the property's upkeep and do your homework on the going rental rates in your area. Don't rely on the seller's estimates of what rent the property may fetch.

Shares of individual banks in December 2013	housing loans	mortgage loans	other housing loans	building loan
banks and branch of foreign bank with mortgage license				
Československá obchodná banka	10,83%	9,71%	13,91%	0%
OTP Banka Slovensko	3,32%	2,04%	4,72%	0%
Prima banka Slovensko	2,57%	2,49%	3,21%	0%
Sberbank Slovensko	3,26%	3,11%	4,10%	0%
Slovenská sporiteľňa	26,31%	16,82%	37,07%	0%
Tatra banka	13,61%	17,25%	15,06%	0%
Všeobecná úverová banka	19,79%	44,81%	12,39%	0%
UniCredit Bank Czech Republic and Slovakia	5,63%	3,76%	7,85%	0%
building societes				
ČSOB stavebná sporiteľňa	0,71%	0%	0%	5,22%
Prvá stavebná sporiteľňa	11,99%	0%	0%	87,49%
Wüstenrot stavebná sporiteľňa	1,00%	0%	0%	7,30%
branches of foreign banks and other banks				
BKS Bank	0,01%	0%	0,01%	0%
BRE Bank	0,52%	0%	0,89%	0%
Citibank	0,01%	0%	0,02%	0%
J&T Banka	0,01%	0%	0,01%	0%
Oberbank	0,08%	0%	0,14%	0%
Poštová banka	0,32%	0%	0,56%	0%
Privatbanka	0,03%	0%	0,06%	0%

Table 1: **Report on the full sector classification of loans**
(*Source: National Bank of Slovakia, www.nbs.sk,2013*)

If you are buying an apartment, look at what other apartments in the block are commanding in rent. For houses, check rental rates with local real estate agents or look online.

Conclusions

As earlier stated that choosing and making a decision to finance a real estate property depends on a number of factors including anticipated use of the property, anticipated returns from the property, Geography, type of real estate, Size of real estate, perceived risk to lender and market conditions.

These factors can help you to determine where you want to have your real estate property, which type of real estate property you want to have be it stabilized or unstabilized property or distressed property, and it goes on to give you an overview of which loan to take and consequently the risks which you face with the loan you are getting. It is almost the same to a lender as it gives an insight of to where and what type of property to put his/her money and of course what risks he is ready to take.But with the given ways of minimizing the risks as stated in the article it is always possible to change the risks to opportunities with robust profits.

Acknowledgements

I would like to express my deep gratitude to doc. Ing. Daniela Špirková, PhD for her guidance, encouragement and useful critiques on producing this paper. I would also like to thank Jaroslava Molnarova for her assistance in keeping my progress. Finally, I wish to thank my family for their support and encouragement throughout my study.

To God be the glory.

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Richard Heriban

GEOGRAPHIC ASPECTS OF LABOUR FORCE MOBILITY IN SLOVAKIA

Introduction

The labour force mobility is a phenomen on taking place for centuries. People do travel to take advantage of a better location in the destination, of a better access to work, more favourable working conditions etc. Geographic labour mobility is an important element of a well-functioning labour market. By improving matches between employers and workers, geographic labour mobility can contribute to economic efficiency and community well being. (Productivity Commission, 2014)

Mobility of labour force can be viewed as a change in the workers' residence (geographical mobility) as well as a change in the job description (working mobility). Generally the mobility of the labour force exerts a positive influence on the local economy by a better (respectively more intensive) usage of local resources while simultaneously improving one's economic state.

According to Dr. Zaiga Krisjane there are several approaches to labour force migration modelling:

- The traditional model, in which the push-and-pull factors of migration are assessed. This approach emphasises the fact that individual sleave home as a result of unemployment, economic difficulties or a lack of political freedoms. They move to countries or regions in which migrants are offered jobs and better wages. The emphasis in this model is often on the difference in salaries and income between the country of origin and the recipient country. The migration process is often seen as involving a chain of factors
- The approach of the new economics of labour migration, where the emphasis is on earning a living
- Structuralism, which accents the social and institutional aspects of migration, viewing migration as a hierarchically structured example of social relations and institutional limitations on individual choice
- Transnationalism, which refers to the establishment of a new environment while ensuring traditional links with the country of origin while transferring and adapting experience from the new country of residence
- The theory of social networks or actors, which is based on the two central and closely interrelated concept so factor and network. Of key importance here is the context in which the process has occurred – the social context and the historical context, which includes both political and economic considerations. All of the contexts are evaluated in interaction. (Krisjane, 2007)

The labour-force mobility can be characterised by using various indicators, such as the rate of long-term unemployment, regional differences in unemployment rates, the extent of labour-market protective measures. These (and others as well) indicators (wage and price flexibility criteria included) affect its overall flexibility, the ability to adjust to the shocks and disparities via the labour market. (Drastichová, 2010)

Data

Within the frame of our Slovak labour market mobility research (based on the above-mentioned – but not limited to – indicators) the need arises to not only quantify the labour market mobility, using data from the Statistical Office of the Slovak Republic and various regional databases but to plot it in a graphical way as well. By contrast to data tables, geographic plotting has the advantage of adding more clarity and visualization for a laic eye.

Analysis

The displayed variable here is the rate of immigration and emigration. We follow the cross-section of the resulting balances thereof between individual districts in Slovakia from 2003 until 2012. This enables us to research the changes in time. The geographic plotting is important in regards to researching processes in spatial planning within the context of e.g. residential setting, the rate of centralization etc.

Using dedicated software we subsequently plotted (and differentiated at the same time) individual districts in Slovakia according to selected intervals of migration intensity (up to 500, 500-1000, 1000-1500, 1500-2000, 2000 and more). The base for geographical plots we used was a vector map of cadastral municipality areas from the map piece SVM-50.

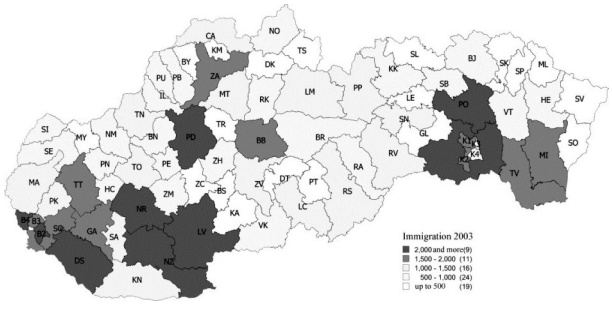

Figure 1: **Immigration 2003 – absolute numbers**
(Source: author's own work)

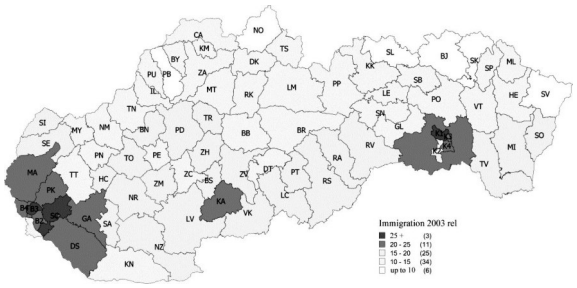

Figure 2: **Immigration 2003 – relative numbers**
(Source: author's own work)

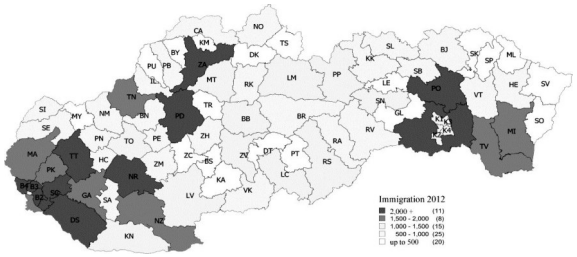

Figure 3: **Immigration 2012 – absolute numbers**
(Source: author's own work)

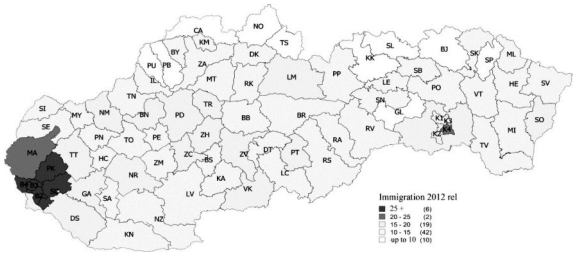

Figure 4: **Immigration 2012 – relative numbers**
(Source: author's own work)

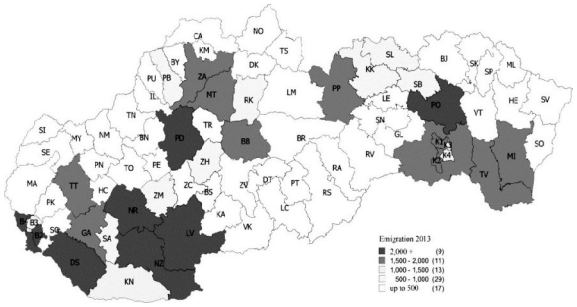

Figure 5: **Emigration 2003 – absolute numbers**
(Source: author's own work)

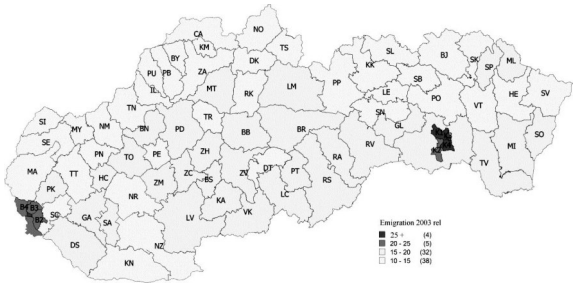

Figure 6: **Emigration 2003 – relative numbers**
(Source: author's own work)

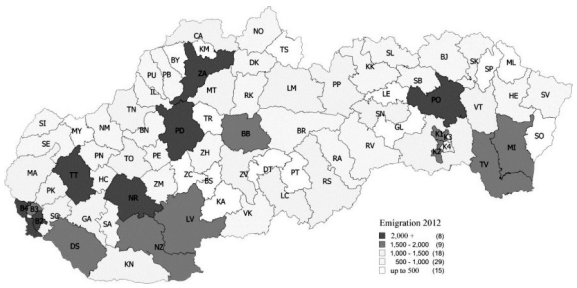

Figure 7: **Emigration 2012 – absolute numbers**
(Source: author's own work)

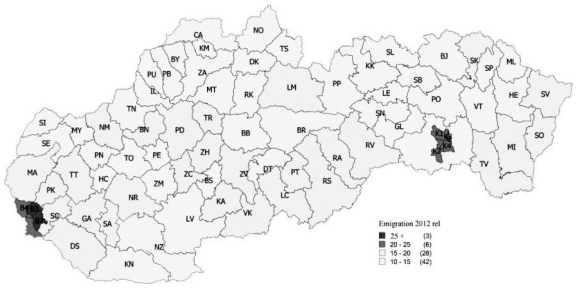

Figure 8: **Emigration 2012 – relative numbers**
(Source: author's own work)

Conclusions

From the plotting of migration flows within Slovakia (pictures 1 – 8) it becomes obvious that the main workforce flows head to economic and industrial centres and parks which represent the 'pull' factor. As in 2003, in 2012 there is also a continuous trend of gravitational attractiveness of the West Slovakian district (Zapadoslovensky kraj) – especially the Capital city territory and the centres around it – Senica, Malacky, Dunajska Streda and Trnava. Additional such centres are created in the Zilina and Prievidza districts and in Kosice and Presov in the east of the country. The middle and outtereast areas of Slovakia record a minimal extent of immigration which correlates with the economic performance of those regions.

The plotting of emigration correlates with the plotted immigration. The interesting result of such plot is a created belt of districts which extents approximately through the middle of Slovakia from the west to the east (districts NM, BN, PD, TR, ZC, ZH, KA, VK, ZV, PT, RS, RA, RV). It is discontinued by Kosice and then starts again towards the eastern border (districts TV, MI, SO, SV). These findings correlate with the study done by B. Sprocha (Institute for Forecasting of the Slovak Academy of Sciences) on the prognosis of the development of population in the districts in Slovakia. The highest rate of emigration belongs to the largest centres (Bratislava, Kosice), explainable by natural commuting within the cities themselves.

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ANALYSIS OF THE PUBLIC SPECIAL REAL ESTATE FUND FROM THE PERSPECTIVE OF LEGISLATIVE CONDITIONS OF INVESTMENT AND COMPARISON OF SELECTED FUNDS ON THE BASIS OF MULTI-CRITERIA METHOD

Introduction

Public special real estate funds (PSREF) invest their assets directly in real estate, asset-based participation on real estate companies or other assets which are closely connected with the real estate market. They are primarily focussed on investment in fixed assets (residential premises, logistical centres, commercial centres, office buildings and sports, relaxation and accommodation facilities). Investments have a moderately conservative orientation. The riskiness of these trusts is a little bit higher than that of bond funds, whereas the real estate market also has a cyclical character, and it is therefore necessary to count on an investment horizon which is similar to that of the share funds of 5 to 7 years. These are mutual funds designed to small investors that can invest directly in real estate projects. The most important difference between conventional mutual funds and real estate funds is in the valuation of assets in the fund (Adamuščin, 2010).

These funds have a potential to bring attractive yields especially from lease of real properties, as well as from increase of the market value of real properties in the fund. Investments into real estate market serve as an instrument for preservation of the value of money, especially from the reason of linking-up of rental prices of properties to inflation. Real estate investments rank among alternative investments, which do not follow the moves of equity and bond markets and due to this fact, they represent a suitable instrument for the risk diversification of investor`s portfolio.

The first special real estate fund was created by Investičná a dôchodková spoločnosť on the Slovak real estate market which has got a licence from the National Bank of Slovakia in November 2006. Conditions of operation of public special real estate funds in Slovakia regulate the Act No. 203/2011 on Collective Investment as amended.

Basic definitions and legislative conditions for investment

Special common fund is a common fund which is not a standard common fund and into which funds are collected through public offer or private offer in order to invest such funds in assets determined by the Act no. 203/2011 on Collective Investment as amended. A special common fund may only have the form of an open-ended common fund or a closed-ended common fund. Special common funds are:

a) Special common fund, and
b) Special qualified investor common fund.

Public special common funds are

a) Special securities fund,
b) Special alternative investment fund,
c) Special real-estate fund.

In order to establish a public special common fund, an authorisation is required from Národná banka Slovenska. The authorisation for the establishment of a public special common fund may only be granted to a management company that has been granted the authorisation from Národná banka Slovenska or to a foreign management company which is authorised to operate by means of establishing operate by means of establishing a branch.

ASSETS PERMITTED FOR THE ASSET'S INVESTMENT IN THE SPECIAL REAL-ESTATE FUND

The assets of a special real-estate fund shall, in particular, be invested in:

a) real estate, including appurtenances, for the purpose of its management and sale,
b) shareholdings in real-estate companies,
c) other assets, which in their essential economic terms give rise to a close connection with the real-estate market.
d) derivatives, if
   - the underlying instrument of these derivatives are shares of real-estate companies,
   - the counterparty in trades in such derivatives is a financial institution or another legal entity, the category and state of origin of which is stated in the fund rules, if they are over-the-counter derivatives,
   - the over-the-counter derivatives are valued at least at intervals in which the assets of a special real-estate fund are valued and such a valuation is verified by methods,
   - risks arising from these derivatives, including counterparty risk, are adequately captured in the public special common fund's risk management system, and counterparty risk is adequately secured with collateral in the case where the counterparty in trades in over-the-counter derivatives is another legal entity under the second point.

For management purposes, the real estate acquired for the assets in a special real-estate fund shall, under proper management, be capable of bringing a regular and long-term income to the credit of the assets in special real-estate fund and the value of which may be determined by the yield method or by the comparative method, where justified.

For sale purposes, the real estate acquired for the assets in a special real-estate fund shall bring a profit upon sale, the value of which may be determined by the comparative method or by the yield method, where justified.

The fund rules of public special common fund shall also state the designation of the countries within the territories of which the real estate is located, in which the assets in special real-estate fund is intended to be invested, or countries where real-estate companies have their registered office and the shares of which are to be the investment for the assets in special real estate fund, and the maximum limit of any such investment.

At least 10% of the value of assets in special real-estate fund shall include: a) deposits b) unit certificates or securities c) treasury bills, or bonds and have a remaining maturity period of no more than three years.

RISK-LIMITATION AND RISK-SPREADING RULES FOR SPECIAL REAL-ESTATE FUND

Article 132

(1) The value of real estate acquired for the assets of special real-estate fund may not, as of the date when the contract for the purchase or the sale of the real estate is concluded, exceed 20% of the value of the special real-estate fund's assets.

(2) The total value of real estate whose value cannot be determined by the yield method shall not exceed 25% of the asset value of a special real-estate fund. Included within this limit shall be the value of real estate belonging to the assets of the real-estate company into which assets of the special real-estate fund are invested, and only that part of the real estate which cannot be valued by the yield method; such value shall be a proportion based on the shareholding in the real-estate company.

(3) If, following the acquisition of real estate for the assets of special real-estate fund, the limit referred to in (1) or (2) is exceeded by more than 10%, the management company shall align the composition of the assets in the special real-estate fund to the limits referred to in (1) and (2), no later than two years after that excess.

(4) The limit referred to in (1) shall not be used for longer than the three years following the entry into force of the decision to grant the authorisation for the establishment of the special real-estate fund; this period shall be stipulated in the fund rules, while that rules may also stipulate the period shorter than three years. During this period the management company shall not be obliged to redeem unit certificates in the special real-estate fund.

(5) For the purposes of calculating the limits laid down by this Act, the pieces of real estate with interconnected economic use shall be deemed to constitute a single piece of real estate.

(6) The value of a shareholding in a real-estate company within the assets of a special real-estate fund may, at the time of its acquisition, constitute no more than 30% of the value of the assets in the special real-estate fund.

(7) If, following the acquisition of the shareholding in a real-estate company, the value of this shareholding exceeds 40% of the value of the assets of the special real-estate fund, the management company shall align the composition of the assets of the special real-estate fund to the limit laid down in (6) no later than two years after that excess.

(8) The provisions of (6) and (7) shall not apply where shares in a newly constituted real estate company are subscribed for the assets of a special real-estate fund, and the assets of that real-estate company do not yet include any real estate.

Article 133

A report on management of special real-estate fund's assets shall state information about the current value of real estate in the assets of the special real-estate fund and in the assets of real-estate companies.

Article 135

A management company may provide a loan out of the assets in a special real-estate fund only to a real-estate company in which it has a shareholding. Any loan provided out of the assets of a special real-estate fund shall be secured, and it shall be stated, in the loan agreement that in the event of the sale of the shareholding in the real-estate company, the loan shall be due within six months from the date when the shareholding was terminated.

The total amount of all loans provided out of the assets of a special real-estate fund to a single real-estate company may not exceed 50% of the value of the assets of that real-estate company.

The total amount of all loans provided out of the assets of the special real-estate fund to real-estate companies may not exceed 50% of the asset value of the special real-estate fund.

To the credit of the assets in a special real-estate fund, a management company may receive a credit or loan with a maturity of up to one year and in an amount of up to 20% of the asset value of the special real-estate fund.

In order to acquire real estate for the assets of a special real-estate fund, or to maintain or improve the balance thereof, the management company may receive mortgage bonds or credits of a similar type to the credit of the assets in the special real-estate fund. Where mortgage bonds or credits of a similar type are received to the credit of the assets in a special real-estate fund, or by a real-estate company in which the special real-estate fund has a shareholding, they shall not exceed 70% of the value of the real estate.

The total amount of all credits and loans received into the assets of a special real estate fund by the management company managing the special real-estate fund shall not exceed 50% of the value of the assets in the special real-estate fund.

A real-estate company may provide a loan out of its own assets only to a management company managing a special real-estate fund and to the credit of the assets in a special realestate fund which has a shareholding in the real-estate company.

Factors affecting the development of the value in Slovak funds of PSREF [2]:

The most significant factors influencing the performance of the fund are economic growth in countries where the fund realises its investments and the exchange rate of the Euro against other currencies.

Economic growth in countries to which will be directed investments positively influences the growth in value of fixed assets on their national markets, which has a positive influence on the growth in value of shares and vice versa.

Exchange rate: the value of a mutual fund can also be affected by changes in the exchange rate of the currency in which the assets of the mutual fund are accounted. The strengthening of foreign currencies against the Euro has a positive effect in the form of growth in the value of fund assets and vice versa.

Concentration risk: the concentration of investment in a certain geographic region or sector results in market and specific risks.

Market risk (macroeconomical, political) has a large influence on the value of a mutual fund. Unfavourable macroeconomical or political developments in a country have a negative effect on all investments.

Specific risk is a risk that applies only to a certain fixed asset or type of fixed asset. Specific risk can be reduced through the diversification of the assets of a special fund into varying types of investment.

Characteristics of selected PSREF in Slovakia

In the slovak real estate market introduced a special real estate fund as the first Investičná a Dôchodková spoločnosť (IaD) a Tatra Asset Management (TAM). They were followedAsset Management Slovenskej sporiteľne (AM SLSP) a Prvá penzijná. All of four asset management companies offer products that are different investment strategies and trade policies.

IAD Investments, sprav. spol., a.s.
- Prvy realitny fond

(Launching: November 23, 2006)

The strategy of the fund is oriented towards the investment of finances primarily in medium-sized, leased commercial fixed assets, administrative buildings, investment in tourism, regional commercial centres and logistical and storage spaces. A significant part of the portfolio is also invested in residential development projects. A characteristic feature of the management of fund assets is the active search for fixed assets showing signs of undervaluing or prospects for future growth. The selection of concrete fixed assets and regions is dependent on their anticipated future growth.

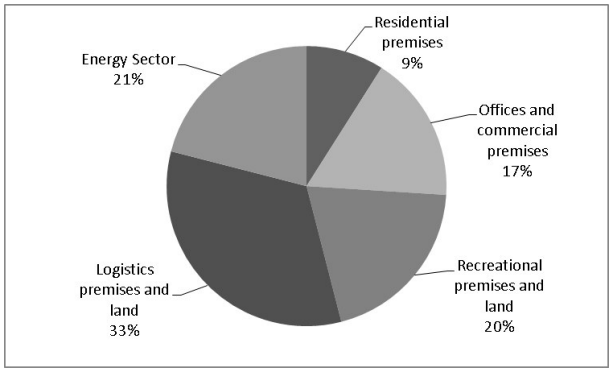

Figure 1: **The share of investment in the fund by sector**
(*Source: Prvý realitný fond, IAD, 2014*)

The investment policy is focussed on the creation of added value of a real estate portfolio through the use of appropriate investment opportunities arising on the real estate market as well as through the effective performance of management of individual properties with the objective of maximising the realisation of the potential of the individual properties. This fund invests primarily in real estate assets/properties in the Czech and Slovak real estate market.

Prva penzijna, sprav. spol., a.s.,
- NAS PRVY REALITNY o.p.f. (Launching: 2007)

The investment policy of the mutual fund is focused to invest the money collected in the mutual fund to different types of assets, primarily in investments in real estate

companies under the conditions specified in the law, as well as other assets meeting the criteria under the law of which the economic substance shows a close link with the real estate market. This fund invests the money collected through the purchase of property indirectly, by purchase of shares in a real estate company that does not have an ownership interest in another real estate company which owns a property that is eligible under sound management provides regular and long-term yield in the estate of a real estate company, in the form of recoveries lease term or properties that are likely to generate profits from the sale of assets in favor of real estate company.

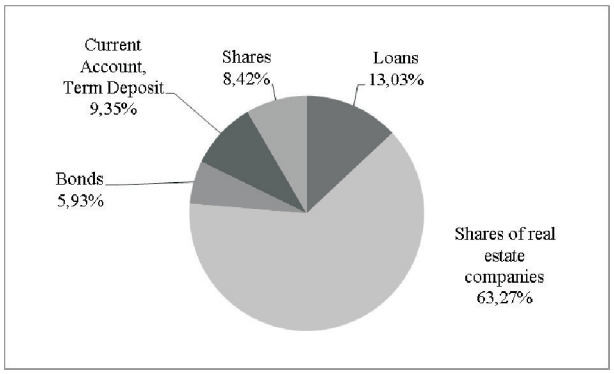

Figure 2: **The structure of asset classes of the fund**
(*Source: Prvá penzijná, 2014*)

Tatra Asset Management(TAM) – Real estate fund

(Launching: April 2, 2007)

Real Estate fund invests in the selected Slovak properties. The fund invests mainly into real estate assets with emphasis on real estate projects and real estate worth from 10 to 15 mil. EUR. It targets attractive administration and office objects as well as retail and logistic centres for the purpose of renting. Direct investments into properties are concentrated in Slovak republic. The fund is currently closed for new investments (11/2014).

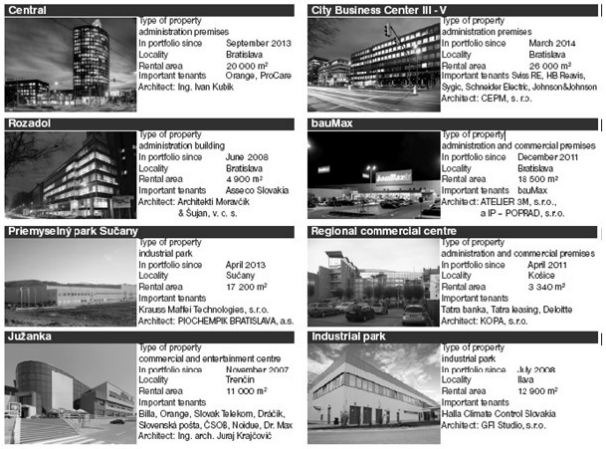

Figure 3: **Most significant properties in the portfolio of the fund**
(*Source: TM, 2014*)

Asset Management Slovenskej sporitelne, sprav. spol., a. s. – SPORO realitny fond

(Launching: May 2, 2007)

Fund assets are invested primarily in assets, of which the economic substance shows a close link with the real estate market. These assets may be units of special real estate funds, debt investments and equity investments. Exposure in the fund is being built especially to areas of commercial, office, industrial and residential areas, especially in Europe but also in North America and Southeast Asia. Equity investment means investment in shares, units of equity funds, including funds traded on a regulated market within the meaning of the Act marked ETFs that replicate stock indexes. Debt investment means investing in bonds, bond funds, including funds traded on a regulated market within the meaning of the Act marked ETFs that replicate bond indices and money market instruments. The vast majority of the Fund's portfolio is denominated in EUR. Other than EUR currency exposure in the fund fully or partially monetarily secure in EUR, while the share of unsecured exposure to the EUR may constitute up to 20% of assets in the fund.(SPORO real. Fond, 2013)

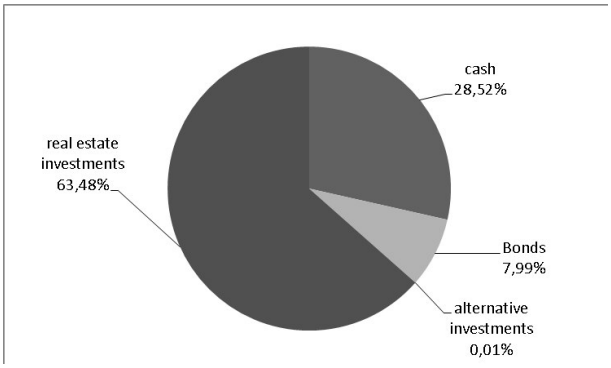

Figure 4: **Distribution by asset class**
(*Source: SPORO real. Fond, 2014*)

Material and methods

Statistics of public special real estate funds (PSREF) are regularly published by the Slovak Association of administrating companies [7]. Appropriate information about PSREF is important for effective investment decisions. For comparison of PSREF it is necessary to choose expertly estimated criteria on the basis of which the comparison of funds is realized. The most important information for each investor is the fund efficiency, net sales, but also the minimum amount of the first investment, which determines the possibility of investing. For assessment of the effectiveness of each fund the following comparative criteria have been chosen (criteria abbreviations are listed in parentheses):

- Efficiency in 6 months in % (e_6m)
- Efficiency in 1 year in % (e_y)
- Efficiency in 3 years in % (e_3y)

	Net sales in SR per year in €	Fund's efficiency in 6 months in %	Fund's efficiency in 1 year in %	Fund's efficiency in 3 years in %	Annual fee for administration and depository in €	The minimum amount of the first investment in €	The maximum entry fee in %	The maximum exit fee in %
IAD - Prvý realitný fond	15 819 947,00	2,12	3,87	3,86	1,69	1 000,00	3,00	0,00
PP - Náš prvý realitný š.p.f.	93 683 894,86	1,72	4,09	4,50	1,90	165,00	2,50	0,00
SPORO - Realitný fond	-1 634 166,15	1,40	0,27	-0,55	1,70	500,00	3,00	0,00
TAM - Realitný fond	4 292 588,73	1,49	3,50	2,93	1,67	150,00	0,00	5,00

Table 1: **Comparative criteria of SREF**
(*SASS, 2014*)

- Annual fee for administration and depository in € (fee_a_d)
- The minimum amount of the first investment in € (min_inv)
- The maximum entry fee in % (max_entry)
- The maximum exit fee in % (max_exit)
- Net sales in SR per year in € (sales)

The analysis of the public special real estate funds is not considering the "PP – Náš druhý realitný, š.p.f.", due to its relatively young origin (also some information about the decision-making criteria is missing). Details of the criteria of the real estate funds are shown in table 1.

Comparison of special real estate funds is calculated using the point method of weighted sum, which belongs to multi-criteria quantitative comparative methods. In general, considering multi-criteria comparisons, there are "m" variants "ai", i = 1, 2 .. m and "n" criteria "kj", j = 1, 2, ..n. The value of the criterion "j" and the variant "i" is "zij", i = 1, 2,..m, j = 1, 2,...n. The task is characterized by dimensional matrix "Z", where variants are rows and criteria are columns [9].

The comparison criteria may have a maximization character (stimulators), or minimization character (destimulators). The higher numeric value of stimulators means positive effect on assessment of the variant and vice versa for destimulators. To solve the problem of multi-criteria comparison of variants it is necessary to transform the task to one criterion problem. Transformation of criteria is calculated as a subtraction of the maximum value of the minimization criterion "j" and its current numeric value

$$\max z_{ij} - z_{ij} \qquad (1)$$

The criteria in general have different importance. The weights "vj", (j = 1, 2,...n) determine the degree of preference.

$$\sum_{j=1}^{n} v_j = 1 \qquad (2)$$

$$v_j \geq 0 \quad , \quad j = 1, 2, \ldots n \qquad (3)$$

The values of the criteria are often generally incomparable. Comparability can be provided by standardization. Standardization means transformation of values of criteria into comparable range.

The result of standardization is a standardized matrix where r.,

$$R = \{r_{ij}\}$$ rij values are calculated as:

$$r_{ij} = \frac{z_{ij}}{h_j} \qquad (4)$$

"hj" - max value of "zj" [4].

The method of weighted sum is one of the point methods, when efficiency of all variants "ri" is calculated as weighted sum of weights "vj" of relating values of criteria "zij"

$$r_i = \sum_{j=1}^{n} v_j z_{ij} \quad , \quad i = 1, 2, \ldots m \qquad (5)$$

The optimal variant is identified by its sum of the products of the weights and values of the criteria. After a comprehensive comparison of variants it is possible to arrange them according to their order of preference in decreasing list representing overall assessment. The optimal variant is the one with the highest rating [4].

Results of analysis

Table 2 shows fund input data and expert estimation of weights.

The table also contains information about the type of criterion. Net sales and the efficiency of funds belong to maximization criteria, because the higher value the fund reaches the better the fund is considered. Administration and depository fee, minimum investment fee, the maximum entry and exit fee are destimulators, because the lower value the criterion reaches the better the fund is considered. Weights are estimated by expert analysis. Considering the long term investment the fund efficiency in 3 years (weight 0,35) is the key criterion. Other criteria are assessed by weights which are based on the individual preferences of the decision maker - the investor.

	sales	e_6m	e_y	e_3y	fee_a_d	min_inv	max_entry	max_exit
IAD	15 819 947,00	2,12	3,87	3,86	1,69	1 000,00	3,00	0,00
PP	93 683 894,86	1,72	4,09	4,50	1,90	165,00	2,50	0,00
SPORO	-1 634 166,15	1,40	0,27	-0,55	1,70	500,00	3,00	0,00
TAM	4 292 588,73	1,49	3,50	2,93	1,67	150,00	0,00	5,00
criterion	max	max	max	max	min	min	min	min
weights	0,1	0,05	0,13	0,35	0,1	0,2	0,05	0,02

Table 2: **Fund input data**
(Source: *author*)

Table 3 shows input data after transformation from minimizing to maximizing criteria according to equity (1).

	sales	e_6m	e_y	e_3y	fee_a_d	min_inv	max_entry	max_exit
IAD	15 819 947,00	2,12	3,87	3,86	0,21	0	0	5
PP	93 683 894,86	1,72	4,09	4,50	0	835	0,5	5
SPORO	-1 634 166,15	1,40	0,27	-0,55	0,2	500	0	5
TAM	4 292 588,73	1,49	3,50	2,93	0,23	850	3	0
criterion	max	max	max	max	max	max	max	max
weights	0,1	0,05	0,13	0,35	0,1	0,2	0,05	0,02

Table 3: **Fund data after criteria transformation**
(*Source: author*)

Standardized matrix "R" according to equity (4)

0,1689	1,0000	0,9462	0,8578	0,9130	0,0000	0,0000	1,0000
1,0000	0,8113	1,0000	1,0000	0,0000	0,9824	0,1667	1,0000
-0,0174	0,6604	0,0660	-0,1222	0,8696	0,5882	0,0000	1,0000
0,0458	0,7028	0,8557	0,6511	1,0000	1,0000	1,0000	0,0000

Table 4 shows the final efficiency of special real estate funds (according to the equity) after taking into account the weights of criteria (5).

	sales	e_6m	e_y	e_3y	fee_a_d	min_inv	max_entry	max_exit	efficiency
IAD	169	500	1230	3002	913	0	0	200	6014
PP	1000	406	1300	3500	0	1965	83	200	8454
SPORO	-17	330	86	-428	870	1176	0	200	2217
TAM	46	351	1112	2279	1000	2000	500	0	7289

Table 4: **Fund efficiency by various criteria after weight consideration**
(*Source: author*)
Note: (the matrix is multiplied by coefficient 10000)

The final order of the funds according to efficiency of each PSREF is shown in table 5 and in the fig. 5.

Place	Fund	Efficiency
1.	PP	8454
2.	TAM	7289
3.	IAD	6014
4.	SPORO	2217

Table 5: **Arrangement of funds by their efficiency**
(*Source: author*)

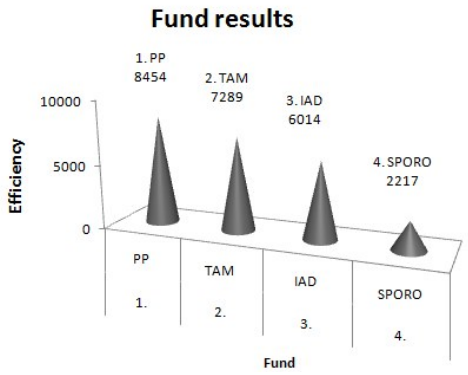

Figure 5: **Graphical review of efficiency of public special real estate funds**
(*Source: author*)

Discussion

Application of point method results into final order in the chart of fund effectiveness. However, assessment of funds using this method brings several complications. There are more problems. The link between weight and the dimensions are measured. The person who sets the weight may not always be aware of these interactions between dimensions. A change in one dimension may be very important if the other dimensions have a certain value, but a low value if the other dimensions have certain other values. Comparing of variants can also be provided by other multi-criteria methods, for example Concordance analysis, which compares every variant with others in pair comparison. It is also possible to use Electre method, which uses limit functions to identify the preference level of each criterion. The preference level is defined by the decision maker, which has significant impact on the final variant assessment. Application and effectiveness of these methods might be a subject for other research.

Conclusions

The public special real estate funds are one of the effective financial investment options. For choosing funds to which the decision-maker should invest it is important to individually consider the importance of each criterion with weight.

The result of comparative analysis based on a point method of the weighted sum is the arrangement of funds by their efficiency from the most efficient one to the less efficient one. Considering our input data the most effective fund is "PP – Náš prvý realitný", with the overall assessment at level 8454, which is already the most popular fund regarding to sales in Slovakia. The fund "TAM – Realitný fond" is the second best option with 7289 points and the third place takes "IAD – Prvý realitný fond" with 6014 points. The last place belongs to the least efficient fund "SPORO – Realitný fond", which reached 2217 points.

The advantage of multi-criteria analysis is the comparison of variants which takes into account all criteria simultaneously. In the future it would be interesting to compare the effectiveness of real estate funds with other funds from other categories, such as money market funds, bond funds and equity funds.

Aknowledgement

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Viera Rajprichová

PROTECTION OF PUBLIC INTERESTS IN CONSTRUCTION PROCESS

The term Project Management - project management refers to a set of methods and procedures. It is an internationally recognized and respected management system that has currently significantly influenced construction management processes. (Petráková, 2008)

A project associated with the construction may be explained as an intention to make a significant change (building), whereas the predetermined objective shall be achieved by a process that is divided into related and coordinated activities with clearly defined commencement and termination points, and which requires specific approaches to management. (Matějka, 2001) This alone predetermines the development and execution of the project to be a unique and an unrepeatable process, in which every individual step carries a different level of risk. A typical project associated with the construction is a "development project".

For the purpose of management and subsequent execution of every such project related to construction process, it is extremely important that private interests mainly focused on achieving set project objectives and on effective and thorough preparation of the project, in the process of its execution significantly collide with public interests predominantly aimed at an adequate use of land and at provision of safety in the course of carrying out and during the use of the building and that these are amended by the provisions of the construction law.

The European law (EU) does not uniformly amend construction law issues, nor does it oblige Member States to formulate such policy and leaves it at the national level of individual member states. Therefore, the conditions for construction regulations are different in each member country. However in most EU countries, there are two separate, independent systems for land-use planning, respectively for land-use and development authorization. In Slovakia, these public interests in construction are amended by the Building Act and its implementing regulations.

First strategic decision that the investor must already make in the first phase of the project preparation, i.e. what project and where the project will take place, is closely linked to requirements resulting from the Building Act, for the intended project to be consistent with the existing land-use plan approved by the municipality or the zoning plan.The approved land-use plan of the municipality is a fundamental land-use planning document at the local level, the purpose of which is to synchronize and coordinate various interests that collide on the territory of the municipality.These are mainly the interests of the state resulting from the Slovak Regional Development Concept, regional interests and needs arising from the regional territorial plan, the interests of local organizations, businesses, citizens and the municipality itself. Given its statutory nature it is a specific agreement of all parties concerned on future development of the city or municipality and on provision of due process for investors related to the manner in which the territory may be used. In practice, there are situations where the investor's conceptof the project is inconsistent with the terms and regulations of the approved land-use plan, or the municipality, despite its obligation to procureand to approve it, does not do so. If the investor insists on his concept, he will be left with no other possibility, but to give the municipality the incitement to procure the land-use plan or to negotiate and to approve the changes of the existing land-use plan. Whereas the assessment of such incitement and the decision of procurement of the land-use plan are in the exclusive competence of the municipality, the developer must convince the municipality of the necessity and benefits of such project.The developer must also count with the costs of co-financing of the changes in the land-use planning documentation. Unless resolving this requirement, investor's intention to carry out the project becomes redundant.

The Ministry of Construction and Regional Development SR through its Program of support for territorial development of municipalities and cities supports the elaboration of land-planning documentation– land-use plans of municipalities and cities. The Ministry provides non-returnable financial aid-grants, which it finances from its budget according to approved amounts for a given year.(Derevencová, 2001)

Public interests in the investment process are provided in the preparatory phase also by discussing theproposalin the administrative proceedingscarried out by the Building Authority and during the execution and the use of the building by control activities of State Building Supervision. In this context, significant administrative proceedings are;land-use proceedings to obtain zoning for the location of the building in the area in question, construction proceedings to obtain building permissionon basis of which the construction of the building may commenceand the approval proceedings to obtain the official approval, on basis of which the building may be used.

Land-use, building and approval proceedings are draft proceedings, which means that the Building Authoritycarries them out to the initiative of the participant of the proceedings. By filing of the proposal, or an application, the participant requires to be granted the right to site or to carry out the building according to its design, or to commence with the use of a completed building for its defined purpose. Construction Authority is required to deal with the proposal and to decide on it.

Whereas in individual procedures "Relevant Authorities" express their statements on the subject of proceedings. Such other public Authorities aremunicipalities, the owners of networks and equipment of technical facilities of the land and designated legal persons that protect the interests under specific regulations.Within the scope of these regulations is the protection of interests accordingto the regulations on the protection of human health, on the creation and protection of healthy living conditions, of waters, on the protection of natural health-restoring spas and natural health-giving springs, on the protection of agricultural land, on forests and forestry, on measures for the protection of the atmosphere, on the protection and use of mineral wealth, on cultural monuments, on the state protection of nature, on protection from fire, for ensuring of safety and protection of health at work, on wastes, on the veterinary service, on influences on the environment, on nuclear safety of nuclear facilities on prevention of serious industrial accidents, on administration of state boundaries, on land communications, on railways, on civil aviation, on inland navigation, on power engineering, on thermal power engineering, on electronic communications, on public water piping and public sewerages, on civil protection, on labour inspectionand on state geological administration

Relevant Authorities express their statements on the subject of proceedings by so called "binding positions". If the developer provides binding positionsof Relevant Authoritiesprior tosubmitting the proposal at the Building Authority, he shall attach them to the proposal, or to the application. This will simplify and accelerate the processes of the Building Authority, as the Building Authority will limitreviewing of the application with therelevant Officesaccording to the extent to which their requirements were met.

Building Act does notstipulatewhichstatement of theCompetent Authority must be submitted in specific proceedings. They arestipulated by specific provisionspursuant to which the statements are issued by Competent Authorities. Given that this issue is not uniformly amended, actions of Building Authorities differ making the process of building licensing disorganized. The following table is an overview of the Competent Authorities.

Equally unclear is the question of the status of network and technical facilities administrators. From the existing provisions of the Building Act it is not entirely clear whether their status is the one of a participant or of a Competent Authority. The law does not require network administrators (underground structures) to report carrying out of such building, hence the developer sometimes learns of the existence of technical facilities of the land or of underground network only at the execution of building works, what may result in halting of the works on the building orin changes to the project.

The body of public administration	*law*	*binding opinion*	*the Competent Authority*	*other permissions*
The District Office,	326/2005 z. z. on forests	§ 6, 7a, 10, in location building process, on forest lands,		
land and Forestry Department	220/2004 on the protection and use of the FA. land	section 17b, for construction of highways and roads for mot. vehicles		
The Regional Office of public health (Office of public health of the SLOVAK REPUBLIC)	355/2007 Coll. on the protection, promotion and development of public health	§ 13 spatial and use decision		
The Ministry of Interior of the SLOVAK REPUBLIC, the Regional Directorate for fire and rescue service, the district Directorate for fire and Rescue Brigade	314/2001 Coll. on protection against fire			assessment of buildings
The Labour Inspectorate	125/2006 Coll. on labour inspection and on the amendment of law No. 82/2005.	section 7 of the authorisation and completion of buildings and their changes, the employer, entrepreneur		
The District Office of the Department of the environment	364/2004 Coll. on waters	section 27, 28, an expression of consent	§73, in proceedings in which the competent authority building	Special construction Office
	543/2002 Coll. on the protection of nature and the landscape	§ 9, 103 comments	§ 9, 103 in proceedings according to the building Act, in part, in the other according to the degree of protection always	
	223/2001 Coll. about waste	§ 16 comments to the construction of waste management	§ 16	
	137/2010 Coll. on air	§ 17 of the Act, the building permit according to the size of the territorial source + § 18 (1)		
The Ministry of environment of the SLOVAK REPUBLIC, the District Office, Department of the environment	24/2006 Coll. on the assessment of impacts on the environment	The final opinion of the assessment process		
Regional cultural heritage Office	49/2002 Coll. on the protection of the sister cities Fund	in proceedings pursuant to section 32 of the Act shall be issued by the opinion of the regional cultural heritage office building	§30, when placing ads on the cult memory, RA. the opinion of the	
The authority of then Civil Aviation of the SLOVAK REPUBLIC	143/1998 on Civil Aviation			§ 28, in the territories. proceedings concerned the protection of airports and facilities, special construction Office for the construction airports

Table 1:**Overview of the Competent Authorities**
(part I)

Optimization of all interests in accordance with the relevant legislation must be provided by the project documentation, which is the product of a drafting process and on basis of which the building is latercarried out and used.The content and scope of the project documentation stipulated by executive regulations to the Building Act, regulation MŽP SR.456/2000 Coll.through which certain provisions of the Building Act are executed. Documentation must be processed by an authorized person, i.e.project engineer, who is authorised to perform project management activities under the Act no. 138/1992 Coll. on Authorized Architects and Building Engineers as amended. If the proposal and the documentation donot provide sufficient grounds for its assessment, the Building Authority shall call on the proposer to amend the proposal and to removeflaws.

The Office of rail Regulation (self-governing region)	513/2009 Coll. on runways			§103 in territorial and civil proceedings within the protection zone, a special Building Authority for construction of runways
The District Office, the Department of road transport and roads	135/1961 Coll. on road	§ 3b in territorial proceedings when connecting roads	section 3b in territorial proceedings when connecting roads	Special Building Authority for roads
District mining Office	44/1988 Coll., on the protection and utilization of mineral	§ 18, 19 in the protection zone	§ 18,19	Special Building Authority for mining **§ 17**
	51/1988 Coll.on mining activities		§ 41 in order to permit construction and equipment in the protected territory	
Office of public health of the SLOVAK REPUBLIC	218/2007 Coll. on the prohibition of biological weapons	section 18 to land-use, building, building if change is to be treated with biological risk. Agents and toxins		
The telecommunications authority of the SLOVAK REPUBLIC	351/2011 Coll. on electronic communications		§ 67	§ 66
The Ministry of environment of the SLOVAK REPUBLIC	569/2007 Coll. on geological work			
The Ministry of health of the SLOVAK REPUBLIC, the Inspectorate	538/2005Coll. on natural healing waters		§ 40	
The Ministry of economy of the SLOVAK REPUBLIC (municipality)	657/2004 Coll. on thermal energy	§ 5 ods. 7		
Ministry of economy (the Office for regulation of network industries)	251/2012 Coll. on energy			
The Ministry of Interior of the SLOVAK REPUBLIC	298/1999 on the report of the national borders		§ 4	
The District Office of the Department of emergency management	42/1994 on the protection of the civilian population		§ 14. in pa3, the construction and use	
Regional veterinary and Food Administration (State Veterinary and Food Administration	39/2007 on health care		§ 44	
State navigation authority	338/2000 on inland navigation		§ 4 ods. 8 and§ 39 ods. (f)	
The Office of nuclear supervision of SR	541/2004 Coll. on peaceful uses of nuclear energy			Special Building Office
A Municipality	50/1976 Coll. on territorial planning and building code	§140a ods. 1 b)		
A Municipality	582/2004 Coll. on local taxes			
The owners of the networks and the technical equipment of the territory and any other legal person	Article 140a from No 50/1976 Coll. on territorial planning and building code, according to authority of a specific regulation	for example from no 251/2012 Coll., from No 657/2004 Coll., of no 351/2011 Coll., from No. 364/2004 Z., no. 135/1961 Coll.		

Table 1:**Overview of the Competent Authorities**
(part II)

The Building Authority shall seta time limit within which the proposal needs to be amended. Until the expiry of this period the Building Authority shall suspend the proceedings and shall notify the proposer of the consequences resulting from failing to amend the draft. If the proposer fails to remove theflaws the Building Authority shall suspend the proceedings.

Prerequisite of the building permission application is the data indicating whether the building will be carried out by the contractor, orby means of self-help. This information is required on the ground that the supervision of carrying out of building, i.e. organizing, controlling and coordination of building works and other activities on the site and on the building, monitoring of the manner and of the procedure of carrying out of building, responsibility for conformity of spatial position with documentation of construction and for observance of general technical requirements for the construction, is a so-called selected activity in construction, which can be carried out by person with special authorization.The aim of this is to ensure that each building will be carried out in a manner to meet the fundamental requirements for buildings during the whole period of economically justified life amended bythe regulation of the European Parliament and the Council (EU) No.305/2011 from 9. March 2011. In the case construction is carried out by means of self-help and the developer does not prove thathe did secure building supervision by means of an authorised person or the contractor does not have relevant authorization to carry out constructions, the Building Authority shall not issue a building permission or shall halt the construction.

Protection of property rights has an important role in the Slovak legal system. An essential requirement which is amended in the Building Act is that the developer must own the land on which the building is to take place, or to have other authorization to carry out the building. As another right the Building Authority shallin accordance with the Building Act acceptedthe right, arising from the concludedagreements, in particular from the lease agreement, agreement on future purchase agreement or binding letter of intenton encumbrances. Settlement of property rights related to land or a building is therefore another essential issue of any project related to construction, which in practice often leads to complications for the developer. For a developer who must prove his right to the land, the certainty of an ownership or other rights to the land, are crucial. There are known cases in which the developer relied on the Extract from the Cadastre i.e. the ownership deed, butlater in the course of the land-use proceedings, such property right of the developer was questioned as a result of restitution proceedings or property rights lawsuit by so-called "caveat" resulting from the ownershiprelations and for the resolution of which the Building Authority is not competent. In such case, the Building Authority shall suspend the construction proceedings and wait for the resolution of the caveat passed by the Cadastral Authority or court. In the case of entered lawsuit, the developer may wait for such resolution even for a number of years. However such situation does not affect his obligation to keep paying off his loan granted by a bank on basis of a submitted ownership deed. This poses a serious danger of bankruptcy and the bank is left only with the property in question which may be used to satisfy bank's oustandings. However this may be complicatedsince the property rights dispute involving a property prevents its sale and the loan becomes unsecured and uncollectable. Potential loss or judicial impeachmentof the ownership or other rights to the property in question may therefore have fatal consequences for developer and often lead to the suspension of the construction and to the frustration of the whole project.

Conclusions

Construction process based on the principles of project management is also characterized by the fact that risks assessment is an integrated part of the project preparation process. Safeguarding of public interests amended by construction regulations also pose risk in the construction process and neglecting themmaylead to a failure of the whole project.

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LEGISLATIVE ASPECTS OF RESIDENTIAL BUILDING RENOVATION

Introduction

The extent and quality of the existing panel construction and the real possibility of organizing a new construction show that the existing housing stock will still be an important housing factor. The majority of the population in Slovakia lives in apartment buildings, which is in private ownership.

According to statistics from the Census in 2011, in the Slovak Republic are 1,994,897 flats, of which 1,776,698 are occupied (89.1% of the total number of flats in the Slovak Republic). Most occupied houses in Slovakia owned by natural persons (792,997, which is 87.5% of the total number of occupied houses in Slovakia) (Population and housing census, 2011). The second most numerous form of property ownership of occupied houses in Slovakia is a combination of ownership (44908, which is 5% of the total number of occupied houses in Slovakia).

Repair and maintenance resp. comprehensive restoration is necessary to realize on the buildings older than 20 years. Extensive - complete restoration concerns housing fund, which have been built until 1973, which is approximately more than 250,000 housing units.

Legal aspects of flats ownership

Property law allows the owner to dispose of things according to his own free will and decision-making. But ownership of an apartment is specific in certain activities, such as maintenance and repair of the common areas and common facilities of the residential building, as well as transactions related to the flat (e.g. Heat and hot water supply from public water pipelines, lighting of common parts and common facilities of the residential building, etc.) cannot be ensured by every owner of residential and non-residential space individually (Špirková, 2009; Špirková, 2013). Every residential house by law requires an administration of residential building that is necessary for management of common affairs of all owners of apartments in residential building.

Being the owner of the apartment means not only the rights of owners, but mainly duties related to the maintenance of the residential building. Forms of administration and the rights and duties of owners of residential and non-residential building is regulated by Act no. 205/2014 Coll., that amends Act. 182/1193 Coll. about the ownership of residential and non-residential spaces, as amended, which came into force on October 1, 2014.

The above quoted amendment significantly modified the latest applicable provisions within the rights and obligations of the owner of an residential and non-residential space in the administration of residential building and in the voting process of owners of residential and non-residential space in case of deciding about the extension or built-ins in the attic or loft.

In terms of the rest of the amended Act, the owner of an residential and non-residential space in the building has a right and duty to participate in the administration of building and on the meetings of owners vote and as s joint owner decide on all matters relating to the management of the residential building, the common parts of the building, common facilities of the residential building, shared non-residential spaces, accessories and land. Notice about meeting of owners with agendas must be delivered in written form to each owner of an residential and non-residential space in the residential building for at least five working days before the meeting. The person who exclaimed the meeting has to announce voting results to other residents of residential building within five working days from the date the meeting happened took place in the usual manner.

In residential buildings where the community of owners of residential and non-residential spaces was established, the owners decide on meetings of owners. Residential buildings, where the community of owners of residential and non-residential spaces was not established and where the administration of building is performed by manager under the contract on the performance report, the owners decide on the meeting of owners.

Voting of owners of residential and non-residential spaces at the meeting of owners of residential and non-residential spaces must be based on the provisions of § 14 sect. 2 of amendments to the Act, which states that for every residential and non-residential space in the building, the owner of an residential and non-residential space has one vote attributable to an residential and non-residential space in the residential building. If the residential and non-residential space in the residential building is owned by multiple persons, they may apply their right to vote only as a single unit.

The meeting of owners constitutes a quorum when owners of residential and non-residential spaces in the building have at least a two-thirds of votes of all owners of residential and non-residential spaces in the residential building. Acceptance of a decision at a meeting of owners requires the consent of more than half of the present owners of residential and non-residential spaces in the residential building if sections 4 and 5, § 14 of the Act does

not provide otherwise. The Act allows to accept a decision at a meeting of owners of residential and non-residential spaces by majority of present owners in case if the meeting does not constitute a quorum even an hour after the noticed beginning of meeting, but with the exception of certain in the law cited in § 14 sect. 3 last sentence after semicolon.

Section 4 § 14 of the Act provides that owners of residential and non-residential spaces in the building accept decisions at the meeting of owners by two-thirds majority of all owners of residential and non-residential spaces in the residential building where voting about:

- the loan agreement and of any amendment related to it,
- the contract of ensuring the loan and any amendment related to it,
- the contract about lease and purchase of thing that owners of residential and non-residential space in the residential house use with the right of its purchase after a negotiated time of use and any amendment related to it,
- the contract about built-ins or extensions and any amendment related to it,
- the change of the purpose of use of common parts of the residential house and common facilities of the residential house
- the change of administration form.

A significant change is brought by the above cited amendment when deciding on the extension or built-ins in the attic or loft, where the law requires an agreement of all owners of residential or non-residential space in the building on the top floor. An agreement of all owners of residential and non-residential spaces in the residential building is also required when deciding on the transfer of the common areas of the residential building, shared facilities of residential building or adjacent land or its parts. When deciding by written voting about the above issues, the signature of the owner of the residential and non-residential spaces in the house on the ballot paper confirm at least two verifiers who have been elected at a meeting of owners, while the signature of the owner of the residential and non-residential spaces in the house can be verified by a notary or municipality.

The amendment to the Act in § 14 sect. 5 deals with the issue of repeated decisions of owners of residential and non-residential spaces in the residential building about the same case, while the new decision on the same issue supersedes the previous decision. When voting about the same subject within one year of the valid voting requires more then half majority of votes of all owners of residential and non-residential spaces in the residential building, except for voting on matters which requires two-thirds majority. When voting about the subject by two-thirds majority of all owners of residential and non-residential spaces in the residential building within one year of the valid voting on the same subject it requires an agreement of four-fifths majority of all owners residential and non-residential spaces in the residential building.

Outvoted owner of residential and non-residential spaces in the residential building has the right that he can go within 30 calendar days of notification of the voting result to the court to adjudge the matter, otherwise this right expires. However, if the owner of residential or non-residential space could not find out the result of voting, he has the right to go to court no later than three months after the voting, otherwise this right expires. Outvoted owner of residential and non-residential spaces in the residential building can also claim the court to temporarily suspend the decision of the owners of residential and non-residential spaces. Valid decisions are binding for all owners of residential and non-residential spaces in the residential building. Contracts and amendments approved by owners are binding on all owners of residential and non-residential spaces in the residential building if the contracts and amendments were signed by their authorized person.

In addition to above mentioned facts, to the content of the accepted amendment of Act no. 182/1993 Coll. about the ownership of residential and non-residential spaces also belongs the new adjustment of creation of rules of the fund operation, maintenance and repairs for owners of non-residential spaces in the residential building. The current legal treatment disadvantages owners of non-residential spaces in the residential building in the creation of the fund operation, maintenance and repairs of the residential building because the owners of non-residential spaces do not have to use all common parts and common facilities of the residential building, while they have to participate on the repairs of residential building at the same level as the owners of residential spaces who are using those common parts and common facilities on a daily basis.

The current legal treatment also does not allow publicizing those owners who had large arrears of contributions to fund the operation, maintenance and repairs, while the solution to this problem trough the court have been extremely protracted. As a tool to solve this problem was a possibility of publicizing those defaulters in the residential building on a usual manner.

By conclusion needs to be expressed that accepted amendment to the Act of the ownership of residential and non-residential spaces will bring significant improvements to given questions.

Conclusions

The new legislation has brought a number of changes. The most significant change is the decision about building a superstructure or built-ins in the attic or loft. In this case, the law also requires the consent of all owners of apartments or office spaces on the top floor in the building. In conclusion we want to express a belief that the new amendment of law on ownership of apartments and office space will bring significant improvements to the owners in the case of renewal of their apartment buildings.

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Ondrej Štefl

ENVIRONMENTAL POLICY – HISTORY AND TRANCE

There's no need for deeper explanation of necessity of environmental protection of natural complexes and wildlife.It is clear that nature alone doesn't have sufficient capacities to defend itself against many of negative influences caused by territorial development of urban environments. The concept of territorial development needs to be observed as a dynamic process of continuous transformation of matter and energy. Unlike relatively slow natural processes that taking place in ecosystems, spatial development processes are much faster and the actual conversion of natural resources is getting faster, extracted capacities are becoming larger and exploitation is becoming more intensive.

Negative feedback of this process is that it has a big impact on the natural environment and ecosystems. For a comprehensive understanding of the situation in the field of environmental policy and environmental policy implementation is important insights into history.Complex relationship between man and nature based on exploitation of natural resources is old as a mankind itself. Major environmental pollution started by Industrial revolution in 18th century and practically lasts till today. One of main causes of this state is adaptation of fossil fuels as a primary energy source. Shift from wood to coal and further use of oil, gas and radioactive ore caused intensified production of environmental pollution in a form of massive waste production and emission of greenhouse gases. Those pollutants caused global changes in form of desertification of land, acidification of oceans and climate changes, off course among the other drastic changes in some parts of Earth´s biosphere presented by extinction of some vital parts of Earths flora and fauna.

Today in this post-industrial and information boosted global society majority of people experienced, or at least have been informed about negative effects of environmental pollution. Natural reaction of global society on these negative effects of economic growth wasintensified orientation on policy making and practical applying of environmental protection measures. This action started in second half of 20th century and appears on many levels from global to local scale.Many of global and European organizations for protection and monitoring provide amount of evidences that environmental quality is decreasing, not only in local or regional sphere but also in global dimension. Most complex part of this action is development of effective nature protection mechanisms. And in many cases this link is still missing.

Leading international scientific body in field of environmental protection is Intergovernmental Panel on Climate Change established in 1988by two United Nations organizations, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) and headquartered in Geneva, Switzerland.

The Summary for policymakers (SPM) is a summary of the Intergovernmental Panel on Climate Change (IPCC) reports intended to aid policymakers.

On level of European Union exists The European Environment Agency (EEA) and its task is to provide independent information on the environment of European region. It is a major information source for those involved in developing, adopting, implementing and evaluating environmental policy, and also the general public. It was established by the European Economic Community (EEC), and became operational in 1994. It is headquartered in Copenhagen, Denmark.

One of most significant reportsis UN Millennium Ecosystem Assessment from year 2005. Also very essential areoutputs from International Panel on Climate Change and analysis of the European Environment Agency. Important fact is that all reports show that the environment is deteriorating locally and globally (MEA 2005, IPPC 2007, 2011, EEA 2007, 2010). Many relevant scientific studies claim that this trend continues and even accelerate (Stern 2006, IPPC 2007).

Latest reaction from European Commission on this actual situation was establishment of Integrated Pollution Prevention and Control (IPPC) Bureau. Directive of the European Union (2008/1/EC) of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control replaces the Council Directive 96/61/EC of 24 September 1996 on the same subject matter; both are commonly referred to as IPPC Directive. From 2005-2007, the effect of the directive was assessed. In 2010, a revised wording was published, integrated with 6 other European directives regulating large industrial sites, into the Industrial Emissions Directive, short IED, Emission Trading System (ETS), etc.

In terms of Slovakia as a statemember of European Union, national law from EU legally bounded to European law and legislation.Slovakia is also a member of United Nations and signed many international agreements in sphere of nature protection, as a Kyoto protocol and many

others. Policies, regulative and also a strategies and development plans are in most of cases adapted or very similar to those European. State instruments of environmental protection are formulated and based on the concept of environmental policy. In this context, environmental policy can be regarded as an essential tool of environmental protection (Romančíková, 2004). Nature and landscape protection according to Laws on Nature and Landscape Protectionis defined as the prevention and limitation of impacts which endanger, damage or destroy life conditions and forms, nature heritage and landscape features, decrease its ecological stability, as well as the removal of the results of these impacts. Nature protection is also defined as the care of ecosystems.

Other claims represent instruments of environmental policy as instruments of state forreaching objectives set in environmental strategies. According to professor Jílková, Instruments defining ties, rights and obligations of the different actors in the system of environmental protection (Jílková, 2003). By her division, there exist tree main actors in process of environmental protection:

- Polluters who pollute the environment by emissions of waste products or pollutants;
- Aggrieved side in the event;
- State intended to govern the relationship between the above entities.

Future examination of this phenomenon requires interdisciplinary approaches and close cooperation of several research institutions and policy makers in a way to improve communication between main actors in process of environmental protectionand improvement of common strategy implementation.. It is crucial to observe elements of territorial system of ecological stability as the content of inventarisation in a way to improve assessmentof environmental qualityin a way to preserve natural capital. It is also important to focus on planning documents and their transformation into the land-use and landscape planning practice.Important tool for achieving goals set in the latest strategy and overcome problems of the implementation in the spatial development practice is application of system of integrated spatial development management.

Latest international colloquium on topic: "Ecosystem services: Adaptive EU policies for future EU regions" held in Slovak university of technology in Bratislavaand organized by Center of excellence Spectra - Slovak Academy of Sciences -Institute of Forest Ecology, Slovak University of Technology and CzechGlobe -Global Change Research Centre, Academy of Sciences of the Czech Republic, represent positive influence on international knowledge transfer and represent solid platform for future environmental policy improvement debates. This field offer many different possibility of research and requires deep examination.

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CROWDFUNDING AS AN ALTERNATIVE FORM OF FINANCING OF INNOVATION PROJECTS

Introduction

Implementation of innovative projects plays a key role in boosting competitiveness and dynamic development of the economy in each country. Nowadays, many business owners are constantly looking for new ways of financing their projects. Despite the fact that standard forms of financing (especially credit financing) are constantly indicated as the most widespread type of fundraising by several surveys, alternative forms are being used more often than ever.

Alternative funding sources are defined as those which are less used in financing of projects in comparison with standard funding forms and where many enterpreneurs do not know their purpose or the process how to obtain them. (Majková, 2008, p. 69). For example, the alternative forms of financing include private equity investments, venture capital, mezzanine capital, tolling financing, financial support from European Union funds or state institutions as well as from funds of large-companies.

However, getting support from big companies, sponsors, business angels, European Union funds is not easy and the entrepreneur is quite often limited in the implementation of innovative projects. Therefore, many of enterpreneurs are looking for new forms of financing that are less burdened by the administration and processing costs of relevant documents and analytical reports. In this case financial tools such as crowdfunding could help.

Crowdfunding characteristics

Crowdfunding, also known as a collective financing, is one of the alternative forms of projects financing via Internet. Crowdfunding is a mechanism where money used for a specific project are gathered from a large number of online investors, sponsors and donors to financially support profit or non-profit projects or even businesses. Thus it is a collective collaboration of people who voluntarily pooling their financial resources together to support the effort of other people or organizations.

Crowdfunding provides the ability to thoroughly know the needs of buyers and assess the viability of their plans. Unlike standard funding mechanisms, crowdfunding allows to implement the project with absolute return of deposited funds for the owner of the project, togehter with avoidance of costs such as market research, analysis of target groups, competitor analysis, advertising, etc.

Crowdfunding works on the principle of obtaining of small amount of money from a wide range of contributors to the project presented in advance via Internet. It is therefore a relationship between creator of campaign (project owner, project initiator) and potential contributors. And how does it really work? It is simple - the project owner establishes a minimal level of financial resources needed for execution of project. The campaign is successful if the required amount of money is achieved. However, it is necessary that the project must be well presented to the community and in most cases it should be defined what will be a counterweight to the money provided this way.

Compared to other alternative forms of financing, crowdfunding can be used to finance innovative projects in many areas. After the successful implementation of non-profit cultural or social projects, crowdfunding starts to be used also in financing of technology projects.

Social networks such as Facebook, Twitter and other specialized websites are very important in the role of developing and supporting. They are the key for the exchange of information on proposed projects and also contribute to the transformation of social capital into financial capital. Social networking websites allow to create content of innovation project distribute it and discuss it, bypassing the whole chain of intermediaries. That is why this process of financing becomes much simpler and more transparent.

Other advantages of this form of fundraising can be considered as follows:

- The project owner controls and monitors everything inculding costs, timing, delivery, creative vision and execution, marketing and customer interactions. § Contributors also form a group of potential customers. If the base of contributors is large enough, the project is on the best way to be successful even after it is finished. And this is valuable information during the campaign.
- It is possible to achieve higher amount of money than required.
- Even if the project failed, its owner loses virtually no money (except money spent on the preparation itself) and can start again with an improved project and presentation.
- Crowdfunding campaign includes the marketing campaign e.g. presentation/advertising of the product through the Internet.

On the other hand, the realization of crowdfunding campaign also entails some disadvantages, which can be summarized into the following points:

- Implementation of crowdfundig campaign is not easy. Its owner must often count with unexpected fluctuations and events during its course.
- The project is not presented to a small group of professional investors only, but many people. This means that the presentation has to appeal to a much more diverse audience.
- Success requires considerable effort to invest in social marketing campaigns and constant promotion of project throughout the campaign.
- Crowdfunding is not always successful. It is necessary to consider possible failure and be ready to use one of contingency plans (Steinberg, DeMaria, 2012).
- To be sure, that the proposed project will be successfully funded via crowdfunding, it is necessary to prepare compelling business plan that justifies the amount of money needed to implement the whole project as well as its individual stages. Experts also recommend to create a video presentation which, in their opinion, is much more effective.

CROWDFUNDING MODELS

Although the basic idea of crowdfunding remains the same - multiple contributors provide small amounts of money - crowdfunding can be classified into categories presented in the Figure 1.

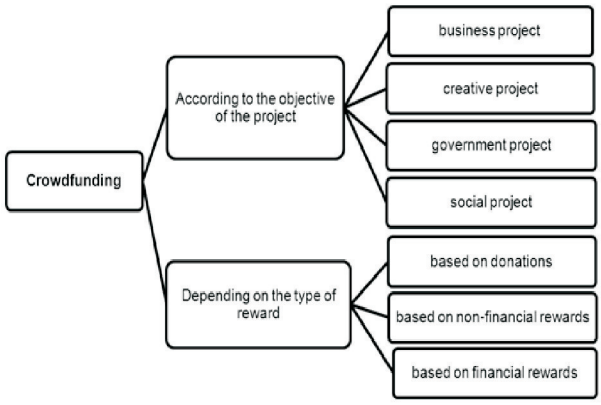

Figure 1: **Crowdfunding by categories**
(*Source: own processing*)

With the donation-based crowdfunding model, tangible returns are not the reason for individual contributions, and thus the success of the crowdfunding campaign is solely determined by the crowd's identification with or emotional attachment to the campaign's cause. Common examples include: individuals' coverage of medical expenses, donations for political or religious campaigns, and community projects that would otherwise require municipality or governmental funding (Sebastian, Grell, 2013, p. 6). Platforms used for this type of crowdfunding include: Betterplace platform in Germany (Welches project unterstützt Du?, 2014), Respekt.net in Austria (Project unterstützen, 2014), Dobro Mail.Ru in Russia (2014) and others.

Crowdfunding based on non-financial reward system is currently the most common model of collective funding. This model is well demonstrated as an effective tool for the acquisition of funds for various projects, starting with creative projects and ending with sophisticated technology products. The main feature of this model is that the contributor receives, in exchange for a financial contribution, some type of material reward, usually by the amount of the contribution. For example those rewards can be in the form of a music album, an invitation to the concert, the first sample of the created product, author's signature, etc. This model is particularly widespread in the development of intangible assets such as software, movies, music or video games. For example, if the contribution to the development of the video game is 10 EUR, the contributor receives a copy of the game after a successful campaign. If the contribution is 20 EUR the reward is better - the game with dedication or with another additions. At higher contributions the reward is even better - a collector's editions will be sent - and so on. Crowdfunding based on non-financial rewards includes also presale of products.

The reward here is product itself such as a book, movie, music album, software, new gadget etc. The owners of these projects promise to deliver the product immediately after it is manufactured. It means that sponsors in this crowdfunding model will be the first owners of the output. That is why crowdfunding platforms are also perceived as a common online store with delay in delivery. The most successful platform, which is operating on the principle of non-financial rewards, is Kickstarter. Projects in total amount of 480 million dollars were funded through Kickstarter in year 2013 (The year in kickstarter, 2014).

Crowdfunding based on financial rewards (crowdinvesting) differs from other forms of crowdfunding by providing financial rewards to contributors. Basically in this model contributions represent investments with the expectation of financial reward for individual contributors. There are currently three forms of crowdinvesting:

- Crowdfunding based on the profit sharing is a logical extension of non-financial rewards system, where contributor in addition to non-financial bonuses and various incentives receives a share of the profits created within the project. This approach is mainly practiced in the implementation of creative projects, such as the funding of music (platform sonicangel.com), games (platform lookatmygame.com), movies (slated.com platform) and so on. This approach is

considered to be very promising, since it allows the contributor not only to have a feeling of being a part of the project, but also to be motivated financially on its success.

- Lending-based crowdfunding operates on the basis of direct loans. In this case, the project owner acts as the debtor and contributors are creditors. While debtors can be both physical and juridical persons, creditors are exclusively physical (natural) persons. The main characteristic of this form of crowdfunding is a clear repayment plan and interest rate. Lending-based crowdfunding model is further developed in two directions:
- corporate financing - for example through Funding Circle platform were implemented innovation projects worth more than 360 million GBP in England (Loans Funded so far, 2014) and projects worth more than 600 million USD were realized in small and medium-sized enterprises situated in the United States (Fast, affordable business loans, 2014). § There are two common forms for funding the individuals - collective funding as well as the peer-to-peer (P2P) lending. In this case, crowdfunding platform is used as a mediator and guarantor of lending procedures. The largest funding platforms for individuals are: American LendingClub (more than 5 billion USD loans funded) (Invest and earn solid returns, 2014), the English Zopa with 617 million GBP (Peer-to-peer lending at Zopa, 2014) and Chinese Renrendai with 630 million USD (Renrendai, 2014).
- The slowest growing type is crowdfunding in the form of investing in securities. That is because there are still many barriers and the risk of losing investment. For example, supporting a project using this type of crowdfunding means, that contributors can become shareholders of the company. This form is currently the most contentious and controversial as it affects the organizational and legal form of the company and is associated with a greater risk to the contributor. Platforms supporting this type of crowdfunding are: American crowdfunding platform EquityNet (245 million USD from private investors acquired and used for projects realized by companies) (The Leading Business Crowdfunding Platform, 2014) and the British Seedrs platform (about 1 million GBP invested per month) (What is Seedrs, 2014).

TOP CROWDFUNDING PLATFORMS

It is possible to start a crowdfunding campaign either by itself or through various online portals. Using the platform helps a lot with creation of presentation and uploading the concept on the Internet.

Presented project also remains visible for people - potential contributors. On the other hand, there are some fees, generally in the form of percentage of the collected amount, which depend upon whether the project is successful or not.

Forbes magazine compiled a ranking of the most famous and popular crowdfunding platform in year 2013.

American platform Kickstarter (kickstarter.com) is currently the largest crowdfunding portal in the world. Kickstarter offers the opportunity to raise money for projects from a wide range of options - art, fashion, culture, technology, design and more. Kickstarter accepts projects which belong to residents of the United States, Great Britain, Canada, Netherlands, Australia and New Zealand only. Slovak projects are not yet supported by Kickstarter but in the words of Charles Adler - founder of Kickstarter - the portal plans to expand to other countries in the future as well. The fee is 5% of the collected amount of money if the camapign is successful. Additional 3-5% belongs to payment systems (e.g. Amazon Payments).

Indiegogo is the second largest world's crowdfunding platform. Unlike Kickstarter, Indiegogo does not limit projects on the basis of their geographical origin, however projects outside the United States pay an extra fee. The fee is 4% of the collected amount of money if the project is successful, plus there is a possibility to get the money even if the campaign fails. Under these conditions portal charges 9% fee (Orfánus, 2014, p. 15).

Third place belongs to platform called Crowdfunder (crowdfunder.com). It is a portal dedicated to investment (and equity) crowdfunding which enables accredited investors to invest in companies and gain ownership. Payment for the opportunity to have a campaign on website is not in the form of a percentage fee, but Crowdfunder works on monthly fees (Barnett, 2013).

Crowdfunding is less common form of financing in Slovakia, but Slovak projects can be started on Ideasstarter platform, which is the first crowdfunding portal in Slovak Republic. Ideasstarter also offers the possibility to choose the type of financing: fixed (collected sum of money is given to the owner of the project only if the goal is reached) or flexible (the project owner will get money even if the campaing fails). The fee is 10% in the form of commissions (Ideasstarter, 2014).

The Figure 2 shows significant increase in number of crowdfunding platforms by the category in the period 2007-2011. This growing trend persists in present as well.

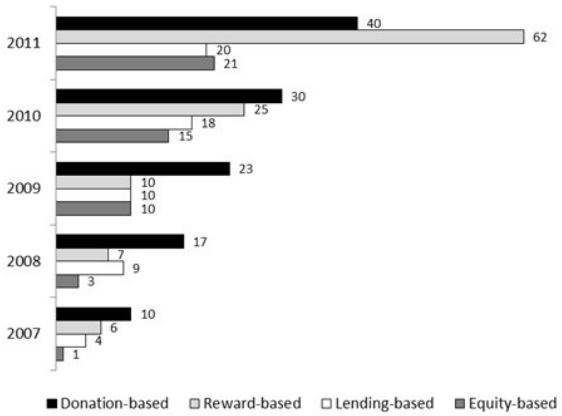

Figure 2: **Growth in the number of crowdfunding platforms, by category between 2007 and 2011**
(*Source: own processing based on Statista, 2014*)

Crowdfunding as a tool for financing innovation projects

According to research of Crowd Valley firm, the current model of financing innovations via crowdfunding includes various forms (Ravanetti, Tordera, 2013):

- equity obtained via crowdfunding (equity),
- loans, including P2P loans, business loans and other forms of lending (lending),
- crowdfunding based on financial rewards (reward),
- combined financing (combined).

The share of individual types of financing is shown in the Figure 3.

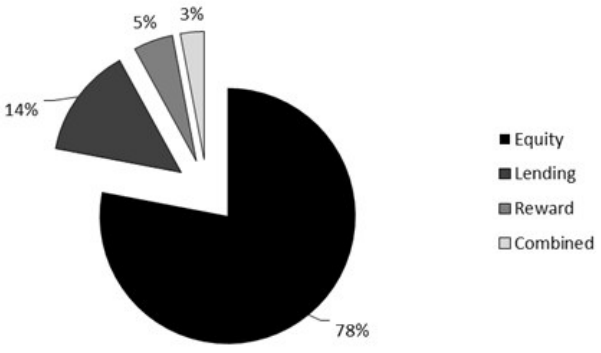

Figure 3: **Investment projects financing model**
(*Source: Ravanetti, Tordera, 2013*)

Basic types of assets financed via crowdfunding are presented in the Figure 4.

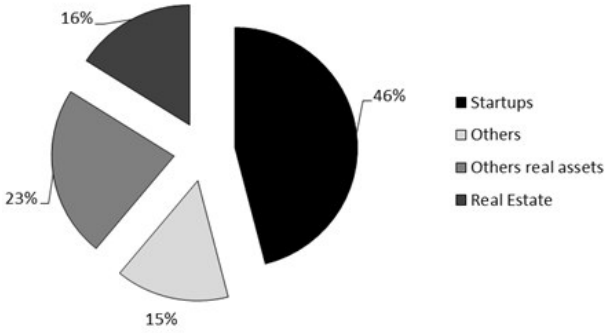

Figure 4: **Assets financed via crowdfunding**
(*Source: Ravanetti, Tordera, 2013*)

Financing via crowdfunding is rapidly expanding to the world. Countries with the largest distribution of this form are shown in the Figure 5.

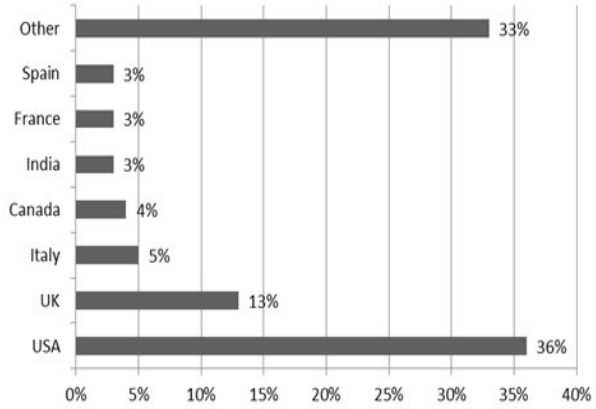

Figure 5: **Usage of crowdfunding in individual countries**
(*Source: Ravanetti, Tordera, 2013*)

It is possible to notice that the development of crowdfunding as a financing system of innovation projects is accompanied by important trends presented below:

- As it was mentioned before, usage of crowdfunding is expanding rapidly. In 2012, funds of 2.7 billion USD were collected, which is an 81% increase in comparison to year 2011 (Crowdsourcing.org, 2013). In 2013 another increase was recorded, where those funds were almost doubled (5.1 billion USD). The expectation for year 2014 is 10 billion USD (Equity crowdfunding report, 2014).
- Crowdfunding platforms are beginning to focus on specific market segments. Although the largest platforms (such as Kickstarter and Indiegogo) operate in different market segments, more and more platforms start to specialize at specific segments. Portals such as Petridish - for research projects (petridish.org), Realty Mogul, Crowdbaron - for real estate (realtymogul.com,

crowdbaron.com), MedStartr - for health care (medstartr.com) are typical examples.

- Long-term support of investors. Standard crowdfunding model assumes a uniform support of specific innovation project or its individual stages of implementation. This approach works effectively if the project is a start-up or a new product. Next step for such projects is to obtain capital for business development, for example in the form of bank loan or venture capital respectively. However, these two forms of financing may not always be compatible. In addition, the creation and promotion of the project via crowdfunding is expensive and not all projects have sufficient resources. It is assumed that crowdfunding platforms will offer support for innovation project in any stage of its implementation.

Crowdfunding in the real estate sector

Many successful projects financed via crowdfunding campaigns proved that this method of financing is actually useful in different areas - product development, expansion of business, development of culture and sport, but also in the field of architecture (this is immediately noticeable in two dimensions - architects and their clients).

As it is stated in research report for The American Institute of Architects, architects' role in the funding cycle can be limited due to the nature of how construction projects are typically financed. Crowdfunding presents the opportunity to:

- Impact the role of architects in the funding cycle by providing the investment models and communications tools to encourage financing for a broad array of self-selected projects.
- Provide architects with the ability to work with local communities to discuss, develop and then implement design ideas that benefit the members of the community while creating both short and long term job opportunities.
- Generate support for "passion projects" that may be unable to secure financing through conventional avenues, allowing practitioners to generate opportunities for a wider selection of design concepts.
- Though an embryonic industry, crowdfunding has already shown the potential to fund architecture projects including pedestrian bridges, religious structures, urban skyscrapers and a multitude of community improvement projects through small dollar contributions (Sebastian, Grell, 2013, p. 2).

"I Make Rotterdam" project, where residents financed the construction of a wooden pedestrian bridge across the busy street or "BD Bacatá" project, based on the principle of investment crowdfunding, which is a 66-story skyscraper located in Bogota (project also known as "the first skyscraper built by common people"), may be considered as the world's most famous projects implemented through crowdfunding campaigns (Suchý, 2013). When crowdfuding is applied to architectural projects, it is necessary to distinguish between two types of projects - whether it is a potential project, or whether it is an ongoing project. This has an impact on the selection of a suitable crowdfunding model and communication strategy. Each of those categories carries a diverse riskiness.

In the case of potential project, it is much easier to signal its needs and in most cases this is directly secured by defining the consequences that occur when required amount of money is not collected and therefore the project fails. Although it may sound like a threat, it is a very effective communication tool.

The second type is ongoing project that needs either additional funds for its successful continuation and completion or the project owner decides for a different type of financing (or combination). Before the final decision, that the project will be financed via crowdfunding, project initiator must consider whether the consequences will be acceptable in case of failure. Since the project is ongoing, the risk of loss is greater than in the case of a new project, because the initial phase of the project has already been financed. That is also a reason why another type of communication strategy is recommended.

The selection of the communication strategy depends also on the type of crowdfunding campaign realized in the real-estate sector, which may present the current needs and therefore cause necessity of implementation of relevant project. As an example the "I Make Rotterdam" project, which solved the well-known problem - a city cut in half by heavy traffic, could be mentioned again. The second type of crowdfunding campaign is so-called "emotional campaign", where emotions are the main incentive. Reward-based crowdfunding is the last type of campaing used in the field of architecture. These findings are summarized in the Table 1, which shows the relative consistency between the different combinations based on the requirements of communication and strengths of the individual crowdfunding models (Sebastian, Grell, 2013).

			Communication	Strengths	Matching
On-going projects					
Donation-based			Requires a detailed explanation of the funding need.	No formal commitment posterior to the campaign.	Average
Reward-based	Relevant rewards?	yes	Identification/emotion-orientation must be clear, and coherent with the reward structure.	Reputational effect: reduced perceived execution-risk	Good
		no			Bad
Project-potentials					
Donation-based			Focus on the urgency of the funding cause.	No formal commitment posterior to the campaign.	Good
Reward-based	Relevant rewards?	yes	Identification/emotion-orientation must be clear, and coherent with the reward structure.	The urgency of the campaign can have a strong impact on the attention it receives.	Very good
		no			Average

Table 1: **Relative match between each combinantion based on communications requirements and the strengths of each crowdfunding model** (*Source: Sebastian, Grell, 2013*)

Table 1 shows, that is best to choose crowdfunding based on relevant rewards for both types of projects.

Conclusions

In the last few years, crowdfunding has become a full-valued source of financing, especially of inovative projects. Because of this, utilization of this form of financing is quickly extending across whole world. Thanks to crowdfunding, the process of financing individual projects has become significantly easier and more transparent. With crowdfunding help, the enterpreneurs - projectors - can evaluate its potential success with public (on market).

Financing through crowdfunding in Slovak Republic is in initial state and is far less popular than in western countries. It can be stated that delay of crowdfunding use in Slovakia is at least 4-5 years. Basically, the beginning of use of crowdfunding principle became the year 2013, when team of enterpreneurs with project CulCharge - the smallest charging cable for smartphones, launched crowdfunding campaign. People from 71 countries showed their interest in this project (Mikula, 2014). Crowdfunding platforms will possibly have far wider scope than getting resources for project realization in future. With crowdfunding market expansion and extension of plaforms, the enterpreneurs will try this model of financing as well. Furthermore, it will be necessary to find new approaches of more effective connection of projectors and providers of resources. Effective mechanism for observation of effective distribution of resources and responsibility fulfilling towards funders is also necessary.

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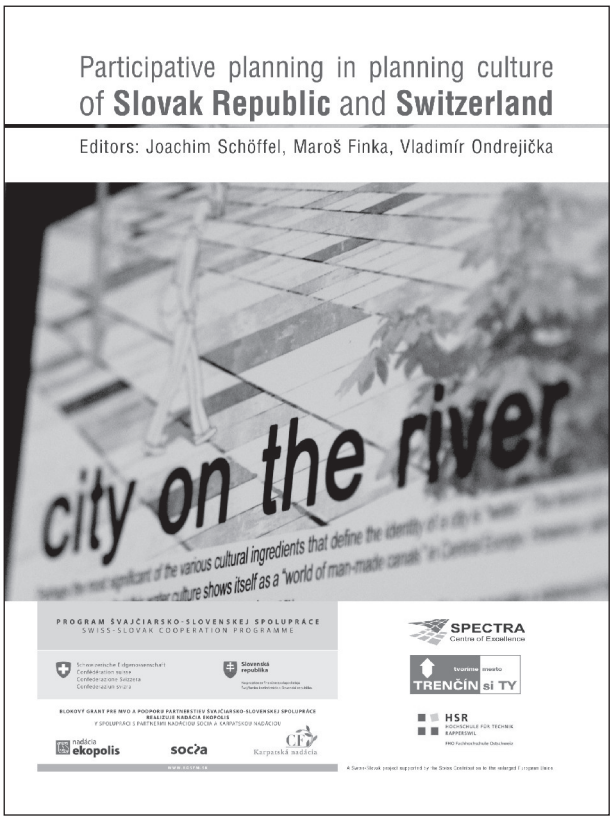
PARTICIPATIVE PLANNING IN PLANNING CULTURE OF SLOVAK REPUBLIC AND SWITZERLAND



PARTICIPATIVE PLANNING IN PLANNING CULTURE OF SLOVAK REPUBLIC AND SWITZERLAND
Schoolbook for spatial planners

Editors:
Joachim Schöffel, Maroš Finka, Vladimír Ondrejička

Project:
TRENČÍN si TY / Project of participatory urban development planning in Trenčín

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Spatial planning as professional activity of the highest complexity must sensibly deal with phenomena like community, identity, place, social behaviour or human values. Planning culture could be deemed as specific, unique as well as typical, non-casual set of approaches (based on underlying values) toward the factors playing principal role in the process of spatial development within certain territory. It can be considered as one of the softest tools of spatial planning and also an integral part of territorial capital. Essential characteristics of planning, its cultural roots as well as the main formal and non-formal approaches significantly influence not only spatial development, but the society as a whole.

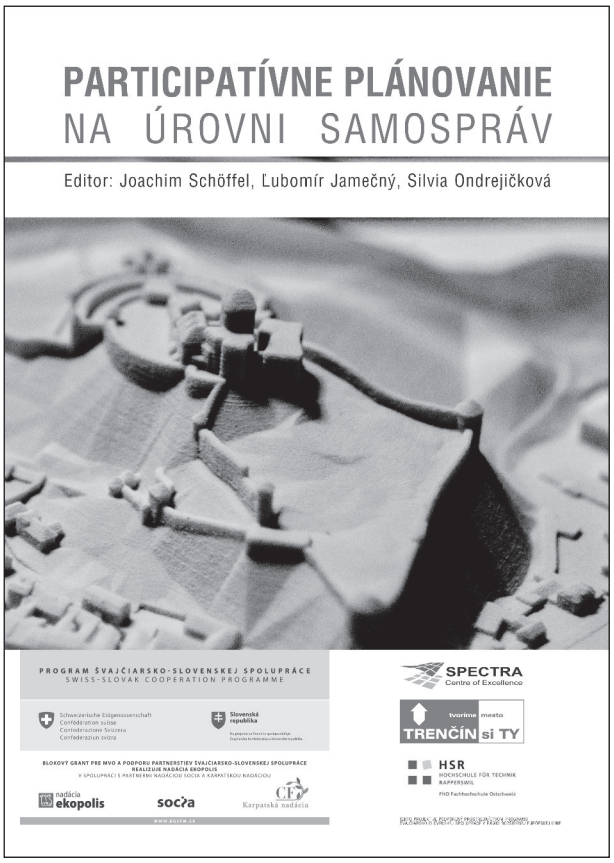
Participative planning is a mainstream of planning theory and methodology for more than 25 years and has delivered many successes in the fields where the old paradigmatic school and approaches (rational-predictive planning, progressive incrementalism) entirely failed. Broader participation of relevant stakeholder within the planning process and its evaluation is nowadays considered to be a fundamental precondition of overall eficiency of planning process and the separable attribute of all democratic planning cultures. Slovak and Swiss planning systems do possess plethora of common or similar traits, belonging to common family of Central European planning cultures.

The book is adressed both to spatial planning professionals as well as to scholars, researchers and students of spatial planning/other relevant study fields (architecture, urban sociology, urban design). First chapter is dedicated to spatial planning as one of the principal tools of urban development management in Europe. Second chapter analyses spatial planning system in Slovakia, with special emphasis on public participation. Third chapter is devoted to spatial planning in Switzerland. Iniciative „Trenčín si Ty“ as a prime example of participative planning is the main focus of the fourth chapter. The fifth chapter includes the best case studies of participation in Switzerland.

The book „Participative planning in planning culture of Slovak Republic and Switzerland“ is a very helpful tool for every spatial planner and is invaluably merging the theory of participative planning with best practice cases from Slovakia and Switzerland.

Matej Jaššo

PARTICIPATIVE PLANNING



PARTICIPATIVE PLANNING

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Review:
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Participative planning and strategic planning is not a description of current or future state of the municipalities or even worse a description or mapping of building activities in the area. The planning in European environment becomes more “ex ante “ then “ex post”. To reach well developed master plan or strategic plan one should become aware that planning is not development of current vision of future state, but development of process – set of regulation rules with aim to reach certain quality of environment. This process is supposed to be flexible so that even not foreseen requirements should be involved at least at the level of outer limits. The process of setting the rules and the setting of rules itself is quit complicated process which should be result of common discussion. The result must be commonly accepted and adopted by the stakeholders.

The publication about the participative planning gives good guidelines how to provide this process to successful end. One of the most valuable parts of the publication is the detailed description of examples which have been realised in Slovakia and also some of other European countries. Nowadays trend of the municipality management and self-government approach needs to show good examples as well as point out to positives and negatives (or warnings) of the whole process. The book contains graphical explanations, maps and precise explanations of terms of process steps. I am convinced that following of these guidelines adapted to local conditions is supposed to lead to successful reach of desired aims and complex development of the area.

Master plan and strategic plans are not documents that are to be securely placed in the depths of authority offices, but they are supposed to serve in the best way of their origin matter. To create master plan as final projection of strategic vison that should prepare conditions for successful and long-term sustainable development there is clear way of involving the stakeholders into this process. This book provides essentials steps how to proceed.

Martin Baloga

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