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Ekonomické studie a analýzy

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VĚDECKÉ STATĚ

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2/2016 **ACTA VŠFS** Volume 10

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Ekonomické studie a analýzy

EDITORIAL

SCIENTIFIC ARTICLES / VĚDECKÉ STATĚ

FROM NEW ECONOMIC LITERATURE / Z NOVÉ EKONOMICKÉ LITERATURY

Editorial
Editorial

KAREL HAVLÍČEK

Dear readers,

This year's second volume of ACTA VŠFS science magazine brings you four professional articles covering an exceptionally wide range of topics. From the influence of industrialization to business and society, through controlling concept regarding accounting systems, performance-driven business innovations to new approaches to evaluation of the effectiveness of banking institutions.

In their article, *The Influence of Bata Shoe Company Development on Entrepreneurship and Implications for the Present,* Pavla Břečková and Irena Němčická set out to describe the influence of one of the most important company in the Czech history – BAŤA – to the business environment of that era. The authors compared the development of industrialization and its influence on small business in 1920's with the present time. Among other, their research brings evidence that the development of BAŤA empire at that time had only a limited impact on the decrease of small businesses in the shoe-making industry. According to the authors, the decrease is ascribed to the technological development and new concept of industrialization of the economy as a whole. The article includes many parallels with the then and current economic situation and the authors also describe the relationship of business environment with sustainable development of society.

With ever increasing controlling demands in business process management, the paper of David Mareš – *Accounting and Controlling Business Management System* – grasps the topic in a rather intriguing way. The author deals with the interconnection of accounting system not only in relation to financial planning, but also to the overall concept of business management. He even goes so far to make a parallel between the accounting information system and customer relationship management. David Mareš proves that long-term business performance can be achieved by right implementation of the management process model while demonstrating that the impact on the overall result is given by relationships at the customer – accounting information system – financial planning – performance of individual business unit level.

In their article, *Indicators for Measuring Outputs of Innovative Initiatives in the Czech Republic*, Veronika Bumberová and František Milichovský deal with yet another key topic related to business management. The innovation and change management is seen by the authors in relation to key financial indicators and they confirm that the access to innovations must not become a mere creative management, but the change management must be closely related to the performance-driven business management based on controlling and quantitative analyses. The authors describe the influence of innovations not only on strategic but also on operational business management.

Those interested in the banking field, will undoubtedly find the paper by Iveta Palečková – *Determinants of the Profitability in the Czech Banking Industry* interesting. The data from the total of 17 banks active on the Czech market for 2004-2014 were compared showing the impact their performance had on their improved position in terms of their size and market share, capitalization, credit risk management, product development and ownership structure. The author goes on to demonstrate the influence of the external environment on the performance of banks operating in the Czech market.

However, it must be also said that the area of public finances is not neglected by ACTA VŠFS and we bring you a review of Stanislav Klazar – *Czech Pension Reform – Still at the Beginning* in the section entitled "From New Economic Literature". The review deals with the book by Jaroslav Vostatek – *Penzijní teorie a politika (Pension Theory and Policy)* – in detail.

We would like to thank our authors, reviewers and readers and we are pleased to inform you that intensive work on the next volume which is to be published in the first half of 2017 is already under way.

Karel Havlíček
Editor-in-Chief
University of Finance and Administration

Vážení čtenáři,

ve druhém letošním čísle vědeckého časopisu ACTA VŠFS se seznámíte se čtyřmi odbornými články, jejichž tematický záběr je tentokráte mimořádně bohatý. Od vlivu industrializace na společnost a podnikání přes pojetí controllingu v návaznosti na účetní systémy, výkonnostně pojaté podnikové inovace až po nové přístupy k posuzování efektivity bankovních domů.

Pavla Břečková s Irenou Němčickou se rozhodly v článku *Vliv rozvoje firmy Baťa na živnostenské podnikání a implikace do současnosti* popsat vliv jedné z nejvýznamnějších firem české historie BAŤA na tehdejší podnikatelské prostředí. Autorky porovnávají rozvoj industrializace a vliv na drobné podnikatele ve dvacátých letech 20. století se současností. Jejich výzkum přináší mj. důkazy, že tehdejší rozvoj impéria BAŤA měl pouze omezený vliv na úbytek drobných živnostníků v obuvnickém odvětví. To autorky naopak přisuzují tehdejšímu technologickému rozvoji a novému pojetí industrializace celého hospodářství. Článek obsahuje celou řadu paralel tehdejší a současné situace v ekonomice, přičemž autorky popisují rovněž vazbu podnikatelského prostředí na udržitelný rozvoj společnosti.

S ohledem na rostoucí požadavky controllingu v podnikovém procesním řízení je velmi zajímavě pojat příspěvek Davida Mareše *Systém účetního a controllingového řízení podniku*. Autor se zabývá provázáním účetních systémů ve vazbě nejen na finanční plánování, ale i na

celkové pojetí řízení podniku. Jde dokonce tak daleko, že účetní informační systémy dává do paralely s řízením vztahů se zákazníky. David Mareš dokazuje, že dlouhodobou výkonnost podniku dosáhneme správnou implementací procesního modelu řízení, přičemž prokazuje, že vliv na celkový výsledek je dán vztahy na úrovni zákazník – účetní informační systémy – finanční plánování – výkonnost jednotlivých podnikových útvarů.

Veronika Bumberová a František Milichovský se v článku *Indikátory měření výstupů inovačních iniciativ v České republice* věnují dalšímu klíčovému tématu podnikového managementu. Řízení inovací a změn autoři pojímají ve vazbě na klíčové finanční ukazatele a potvrzují, že přístup k inovacím se nesmí stát pouze kreativním managementem, ale že řízení změn je úzce provázáno s výkonnostním pojetím řízení podniku založenému na controllingu a kvantitativních analýzách. Autoři tak popisují vliv inovací nejen na strategické, ale rovněž na operativní řízení podniků.

Zájemce o bankovnictví pak nepochybně zaujme příspěvek Ivety Palečkové *Determinanty rentability v českém bankovním sektoru*. Data z celkem sedmnácti bank působících na českém trhu byla porovnávána v letech 2004-2014 a ukazují, jaký vliv měla jejich výkonnost na posilování jejich pozice ve smyslu velikosti a podílu na trhu, kapitalizace, řízení kreditních rizik, produktové zaměření a vlastnickou strukturu. Autorka dále dokazuje, jaký byl vliv vnějšího prostředí na výkonnost bank, které působí v českém prostředí.

ACTA VŠFS ale nevynechají ani oblast veřejných financí a v rubrice Z nové ekonomické literatury uvádíme tentokráte recenzi Stanislava Klazara *Česká penzijní reforma – stále na začátku*. Ta se detailně věnuje knize Jaroslava Vostatka *Penzijní teorie a politika*.

Děkujeme jak našim autorů, tak recenzentům a samozřejmě i čtenářům a rádi oznamujeme, že již intenzivně pracujeme na dalším čísle, které vyjde v první polovině roku 2017.

Karel Havlíček
šéfredaktor
Vysoká škola finanční a správní, a.s.

The Influence of Bata Shoe Company Development on Entrepreneurship and Implications for the Present

Vliv rozvoje firmy Bat'a na živnostenské podnikání a implikace do současnosti

PAVLA BŘEČKOVÁ, IRENA NĚMČICKÁ

Abstract

The aim of this paper is to examine the influence of the expansion of Bata Shoe Company on entrepreneurship in the period of the First Czechoslovak Republic[1] and to find a parallel with the current problems of entrepreneurship in the Czech Republic after almost a century. The partial aim was to trace the impact of the significantly development-oriented strategy of Bata Shoe Company to a steep decline in numbers of entrepreneurs in the shoemaking field in the stated period of 1920s and 1930s, and to realistically describe business environment of that time with the emphasis on entrepreneurship. Another partial goal was to find the above mentioned parallel with present and to identify any implications for the current situation and development of entrepreneurship in this country in general. Entrepreneurship comes back to centre of academic interest and is highly topical these days as one of the pillars of regional sustainability, which is, however, on decline. Concerning the methodology, the research is based on our own examination and processing of unique archive of statistical, descriptive and legislation resources from 1920s and 1930s. In addition, it is based on the analysis of the current entrepreneurship in CZE with an emphasis on artisan trades, as also other data and their comparison from surveys and analyses made by authors in the past were used. The results of the research proved that growth and development strategy of Bata Shoe Company had only a limited impact on the steep decline of entrepreneurship in the field of shoemaking, while among other a technological progress (and industrialisation) played an important role. In order to have higher validation of the result, the archive data were also compared with fields that did not undergo such dramatic technology change. The article also presents a number of parallels with the current entrepreneurship situation.

Keywords

entrepreneurship, Bata, market dominance, entrepreneurship decline, entrepreneurship history, shoe manufacturing

JEL Codes

N6, D4, O14

1 *First Czechoslovak Republic is usually dated from its founding in 1918 till 1938 — before the World War 2nd started.*

Abstrakt
Cílem tohoto článku bylo zkoumat vliv rozvoje Baťovy firmy na živnostenské podnikání v období První republiky (Československé republiky — ČSR), a nalézt po téměř století paralelu se současnými problémy živnostenského podnikání v České republice (ČR). Dílčím cílem bylo jednak ověřit vliv výrazně rozvojové strategie firmy Baťa na prudký pokles počtu živnostníků v oboru obuvnictví v uvedeném období 20. a 30. let minulého století a jednak realisticky popsat tehdejší podnikatelské prostředí s akcentem na živnostenské podnikání. Dalším dílčím cílem bylo nalézt zmíněnou paralelu a identifikovat případné implikace pro současný stav a vývoj živnostenského podnikání u nás obecně. Živnostenské podnikání se vrací do centra akademické pozornosti a je dnes vysoce aktuálním tématem coby jeden z pilířů regionální udržitelnosti, jenž ovšem zaznamenává alarmující pokles. Metodologicky je výzkum položen na vlastním zkoumání a zpracování unikátních archivních statistických, popisných a legislativních zdrojů z dvacátých a třicátých let minulého století. Dále je položen na analýze současného živnostenského podnikání v ČR s akcentem na řemeslné živnosti, jakož bylo využito též dalších dat a jejich komparací z průzkumů a analýz realizovaných autory v minulosti. Výsledky zkoumání s použitím archivních dat a dalších dostupných zdrojů dokládají, že podnikání, růst a rozvojová strategie firmy Baťa měly pouze limitovaný vliv na likvidaci malého živnostenského podnikání v obuvnictví, přičemž významnou roli sehrál mimo jiné technický pokrok (industrializace). Pro vyšší validaci výsledku byla archivní data zkomparována též s obory, které v daném období neprocházely tak dramatickými technologickými změnami. V článku je též prezentováno množství paralel se současným stavem živnostenského podnikání.

Klíčová slova
živnost, řemeslné podnikání, Baťa, tržní dominance, pokles živností, obuvnictví

Introduction
Currently, entrepreneurship[2] is again of much social and academic interest. The reasons are numerous, from social perspective, at minimum, the topic of entrepreneurship is revisited with four-year periodicity of elections in the Parliament of the Czech Republic, as it concerns a relatively large segment of population, whereas frequently changing conditions for doing business for this group are a cause for heated debate and disillusion. In the academic field, we base our assumptions on serious results of statistics and their development, and subsequent analyses or research of business environment with an accent to entrepreneurship. For the purposes of this paper, legal regulation shall mean the existing regulation regarding the form of a self-employed person[3].

Topicality of the problem has become very high nowadays. The technical professions and crafts generally are dramatically missing in the market in both, consumer segment (B2C) and industrial segment (B2B). It is partly a consequence of unfortunate education policy in the Czech Republic, where pursuit of at least 'A-levels' (even in weak specialisation) became an

2 *The entrepreneurship is one of the most common forms of enterprise, for which the term "trade" is used. In the Czech Republic, the entrepreneurial activity is regulated by Act No. 455/1991 Coll., on Trades. The entity conducting trade may be both natural person or legal entity.*

3 *The entrepreneur conducts business at his own risk, guarantees his liabilities with his entire property decides on the financing of his business at his own discretion.*

easily feasible idol, and it is uneasy to restore the prestige of good craft and virtuous piece of work.

As stated in Abstract above, the aim of this paper is to examine the influence of the expansion of Bata Shoe Company on entrepreneurship in the period of the First Czechoslovak Republic[4] and to find a parallel with the current problems of entrepreneurship in the Czech Republic (CZE)[5] after almost a century. The partial aim was to trace the impact of the significantly development-oriented strategy of Bata Shoe Company to a steep decline in numbers of entrepreneurs in the shoemaking field in the stated period of 1920s and 1930s, and to realistically describe business environment of that time with the emphasis on entrepreneurship. Another partial goal was to find the above mentioned parallel with present and to identify any implications for the current situation and development of entrepreneurship in this country in general. Entrepreneurship comes back to centre of academic interest and is highly topical these days as one of the pillars of regional sustainability, which is, however, on decline.

The entrepreneurship, and free entrepreneurship as such, have become widespread since the fall of the iron curtain in 1989 in the Czech Republic. Today, there are 972 356 active self-employed entrepreneurs (as of 31 December 2014), with a moderate inter annual decline (as of 31 December 2013 there were 977 228 registered self-employed persons) (Analysis of Crafts 2[6], 2016 using resources of the Czech Social Security Administration (CSSA). For completeness, in the same monitored period the number of legal entities showed even more significant decline (by more than 0.5 percentage points).

To conduct business in the Czech Republic, one must have a trade licence, while the number of the issued trade licences to self-employed persons, who are the primary focus of this paper, amounts to 2 638 525, being 2.7 trade licences per entrepreneur on average. By their type, they are classified as licensed, regulated, craft and non-regulated trades. At present, there are 27. 87 % craft trades of all trades issued in the Czech Republic; from the regional perspective, the most trades have can be found in Central Bohemia and South Moravia regions, while Karlovy Vary region shows the least trades by far (Analysis of Crafts 2, 2016). Currently, there are 41 types of craft trades in the Czech Republic.

The emphasis on the craft trades is logically tied to the primary focus of this paper, which is mapping the environment, particularly of the shoemaking industry in the period of the First Czechoslovak Republic, although most of the findings will not be necessarily a comparison with the current situation, but rather **about finding the parallels, generalization and implications for the present time and for the future of artisan entrepreneurship.** The predominant aim of this paper is to trace the impact of the significantly development-oriented strategy of Bata Shoe Company onto a steep decline in numbers of entrepreneurs in the shoemaking field in the First Czechoslovak Republic, and to realistically describe business environment of that time

4 *First Czechoslovak Republic is usually dated from its founding in 1918 till 1938 - before the World War 2nd started.*

5 *CZE – for the Czech Republic the acronym "CZE" issued in the text as that is the widely used international country code (ISO 3 digits code, https://countrycode. org).*

6 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2016b). Analýza řemesel_2 (Analysis of Crafts 2).*

with an accent on entrepreneurship. A partial goal was to find the above mentioned parallel and to identify any implications for the current situation and development of entrepreneurship in this country in general.

There are many reasons why the period of 1920s cannot be actually compared in detail with the present time. Firstly, there are no precisely segmented statistics of artisans (or issued trade licences respectively) in the shoemaking industry broken down to both natural persons and legal entities, and secondly, it has had a significant impact on the dynamic development and industrialization over the last 100 years. Today, only small percentage of entrepreneurs make living through complete manufacture of shoes in the Czech Republic, and they only make very specialized products, e.g. sheep's wool house footwear, traditional Wallachian[7] felt boots, felt slippers and so on, that in no way compete with shoemaking chains or multinational manufacturers, but rather make use of small market niches.

1 Literature Review

In general, the statistical outset of entrepreneurship in the Czech lands, dates back to the establishment of the independent Czechoslovakia, to 1918. Following the definitive and international recognition of its borders ranked 13th among the European states with its territory of 140 394 km^2. The Czech lands took 56 % of the republic's territory, Slovakia took 35 % and Carpathian Ruthenia took 9 %. With the population of 13.6 million, according to 1921 census, Czechoslovakia was 9th from the European states[8] (Kárník, 2002, p. 269).

The new state was established after the war, in times when large parts of Europe suffered from the lack of basic raw materials, factories that had been converted to war effort, stopped their products, and much of the agricultural production was disrupted. In Czechoslovakia, the productivity of labour dropped approx. To half of the previous value and the standard of living also showed a steep decline (real wages plunged by 60 to 65 % and the prices surged 30x times during the war) (Klimek, 2000, pp. 92-93).

In spite of this, ever since its establishment, the new Czechoslovak state was one of the most industrially advanced in the world and ranked among the top ten most industrial states in the world by its production per capita, and even its total scope and structure of the production. However, the industrial equipment in the Czech lands was obsolete in comparison with the advanced capitalist states. During the first post-war years, the industrial production fell short of 65 % of the 1913 level (Československá akademie věd, 1960, p. 47).

In the period between wars, small-scale production and private capitalist sector in Czechoslovakia had the most weight from all sectors of economy. The crafts and agriculture was the main sphere of the small-scale production business. The hospitality sector, retail

7 Wallachia – region in the eastern part of current Czech Republic, on the border with Slovakia.

8 Russia came first with the population of 116 million, followed by Germany (59. 8 million), Great Britain and independent state of Ireland (47.1 mil.), France (39.2 mil.), Italy (38.7 mil.), Poland (27.2 mil.), Spain (21.4 mil.), and Romania (16.3 mil.).

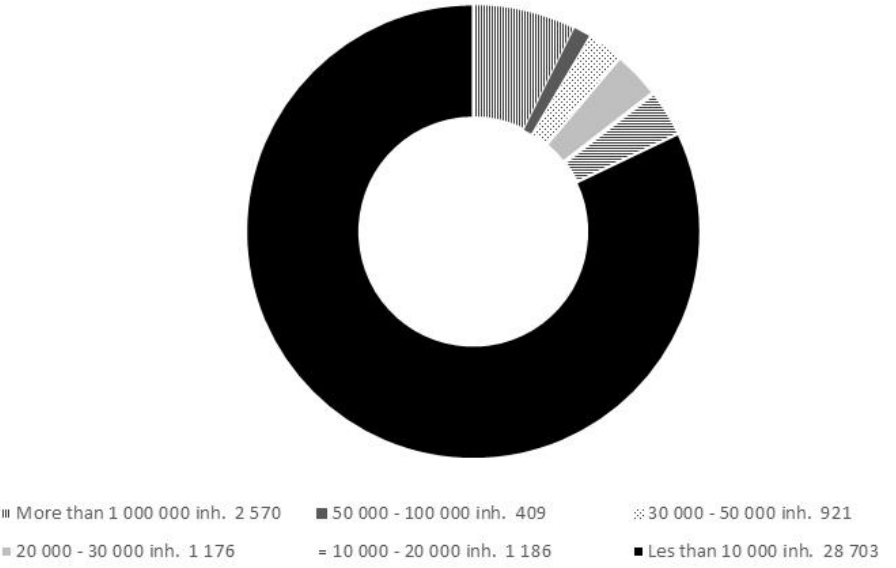
and transport were other most prominent fields among the small-scale businesses (Průcha, 2004, pp. 128-129).

With regard to small and medium business, the ownership by individuals or close relatives was prevalent[9] (Cekota, 2004, p. 24), while large businesses were owned privately exceptionally. In Czechoslovakia, it was Bata that was the largest privately owned enterprise (Průcha, 2004, p. 129).

In general, the main advantages of large firms consisted in the resilience of capital, ability to manoeuvre in the production and on the market, in better technical equipment. The enterprise with broader assortment of the produced goods, such as Bata, had better position for rational organisation and division of labour and also better preconditions for production technical equipment (Geršlová, 2003, p. 6).

Production related trades were thus successful in the fields where they provided services to the public. The most trades were present in rural areas and in small towns where master craftsman worked in his business mostly alone or with one apprentice and worker (Kárník, 2003, p. 303). This statement is supported by the following Figure 1 where we can see that the concentration of shoemaking craft specifically, was in towns of less than 10 000 inhabitants in over 80 %.

Figure 1: Concentration of Shoemaking Entrepreneurs by the Population of Towns in 1920s



Source: Own calculations and processing based on data from the source: Statistics of the income tax paid directly, tax from higher pay, annuity tax paid directly, general and special tax from earnings for 1928. Prague: Český statistický úřad (Czech Statistical Office), 1932.czechoslovak statistics. Volume 82. Series VII, Public finance; book 7, p. 312

9 *The business was started in 1894 by three relatives, siblings Tomáš, Antonín and Anna Bata.*

This **demonstrates a historical importance of services in regions**, or smaller towns and municipalities. It is an area which is highly relevant due to the actual depopulation of municipalities. However, a minor parallel with the trend, being a moderate development of entrepreneurship in the field of services can be seen here (Břečková and Havlíček, 2015), including naturally both craft and craft-manufacturing trades. The very same author states that the he share of this sector has been growing compared to 2011 and 2006. Contrastingly, the share of new business activity in the industrial and construction sectors has been declining. Newly launched companies often include those offering services such as hairdressing, cosmetic services and e-shops (Břečková and Havlíček, 2015). However, regionally it is very difficult to provide solid services in small settlements, and currently the government seeks ways for their improvement, but the motivation-related activities are not grasped and coordinated within the system, and thus have only a very limited effect.

In 1920s and 1930s, the whole 3/5 of the total of trades were self-employed that did not employ any "hired labour" (employees). The crafts were the most significant component of small businesses (up to five active persons). The top five places with the number of workers were taken by: tailors and dressmakers, shoemakers, butchers and pork butchers, joiners, blacksmiths and horseshoes. With the development of capitalism, the small-scale manufacture was driven back, but in some sections it still retained significant and indispensable position. These were fields that had not yet been penetrated by the competition of large-scale industries, such as glaziers, house painters, butchers, confectioners, chimney sweeps, tinsmiths or roofers. It was shoemakers, but also tailors, millers or weavers who had to deal with an entirely different situation when the small-scale businesses faced the increasing pressure of private mass production. In an effort to avoid bankruptcy, some trades were changing their scope of works and underwent transformation from manufacture to repair services, or different manufacturing specializations (Průcha, 2004, pp. 382-384).

2 Methodology

From the methodology point-of-view, the basis of this paper is a combination of several sources. In particular, the research is predominantly based on our own examination and processing of unique archive of statistical, descriptive and legislation resources from 1920s and 1930s. These are mostly data searched in the National Archives in Prague, State Statistical Office, or census in the Czechoslovak republic from 1921 or Statistics of the income tax from 1928, acts and government regulations from 1935 etc.

In addition, this paper is based on expert analyses[10] of entrepreneurship (self-employed) with an emphasis on craft trades until present performed in 2015-16 in the Association

10 Some data from expert analyses of AMSP ČR (Association of Small and Mid-Sized Enterprises and Crafts of the Czech Republic) (2015) were used. Srovnávací analýza OSVČ (osob samostatně výdělečně činných) a zaměstnanců (Comparative analysis of self-employed and employees).

of Small and Mid-Sized Enterprises and Entrepreneurs in the Czech Republic[11]. In the processing of analyses, verified data from sources such as the Czech Statistical Office, Ministry of Finance, General Financial Directorate, Czech Social Security Administration etc. were used.

Last but not least, a compilation of several researches (or their parts respectively), in which one of the authors (Břečková) participated in the past was duly performed. These are primarily the Comparative Analysis of the Self-Employed Persons and Employees[12] and two Analyses of Crafts[13]. Own researches Perception of Crafts in the Czech population[14], Attractiveness of Craft Fields (2016)[15] and research "Young Business" (2013)[16] have also been exploited.

3 Results and Discussion

3.1 Business Environment in the Period of the First Czechoslovak Republic

Following the disintegration of Austria-Hungary, the Czechoslovak entrepreneurs were neither accustomed to customs barriers that came to existence around other successor states nor the competition of other firms that tried to establish their presence on the same markets with better technically equipped goods and for much more favourable prices. The competition from Western Europe was noticeable and mostly the small and mid-sized enterprises, not to mention small entrepreneurs, were not ready for such pressure, specifically in the financial area (Geršlová, 2003, p. 5).

Similar concerns were shared by both entrepreneurs and generally small and mid-sized enterprises in period when the Czech Republic was accessed the structures of the European Union in 2004. The Western competition was significantly more advanced in business practices, services, and methods of capturing new markets and so on.

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11 *AMSP ČR (Association of Small and Mid-Sized Enterprises of the Czech Republic, www.amsp.cz) regularly prepares expert analyses aimed at certain territories, themes or segments of small and mid-sized enterprises. One of the authors of this paper (Břečková) actively participates in the preparation of materials for data collection, their evaluation and interpretation.*

12 *AMSP ČR (Association of Small and Mid-Sized Enterprises and Crafts of the Czech Republic) (2015). Srovnávací analýza OSVČ (osob samostatně výdělečně činných) a zaměstnanců (Comparative analysis of self-employed and employees).*

13 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2015, 2016b). Analýza řemesel_1 and 2 (Analysis of Crafts 1 a 2).*

14 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2014). Průzkum Vnímání řemesel v české populaci (Survey on Crafts' Perception in the Czech Society).*

15 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2016c). Průzkum Atraktivita řemeslných oborů (Survey on Crafts' Attractiveness).*

16 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2013). Průzkum Podnikání mladých – Young Business (Survey on Young Business).*

At the beginning of the 20th century, the Czechoslovak entrepreneurs first took a rather overcautious approach, and the determination to take risks was rather exceptional. However, if they were matching the competition from abroad, they had to invest in business and rationalize both production and management activities at significant cost. Due to the domestic capital poverty, not only was it difficult but due to no knowledge of the future development, as mentioned above, it was both bold and risky. In the times of crises, the entrepreneurs slowly adopted their goods to demand, and contrariwise, they were fast to reduce employment, cut wages and stop production. On the contrary, there were entrepreneurs who engaged in modern business policies having elements such as flexible price adjustments, keeping of at least essential workforce in times of economic downturns, or expansion of production capacities into related fields. Bata Shoe Company was the best known example of such policy in the period between wars (Průcha, 2004, p. 137).

The credit market was yet another factor that might have influenced the decision of entrepreneurs whether or not, or to what extent they should take risks. In 1931 Czechoslovakia, the cost of credit were high, and the leading businesses could only take loans for 9 to 10 %, while in Germany in the same period the credit interest rate was at 7 %. A strict deflation policy also limited the economic growth. One or two large enterprises, such as Škoda, may provide loans by themselves, otherwise new industrial firms (such as Bata) had to expand from their profits (Warriner 1933, pp. 314-327).

Therefore, there is a parallel with the present time with regard to several aspects. The **financing of the start of the business is virtually difficult anywhere in the world** when the firm has no history and may not demonstrate its credibility. Unfortunately, the credit situation of entrepreneurs with long history is not much different from the situation in the period of the First Czechoslovak Republic described above, moreover the current period does not undergo crisis, on the contrary, the economy in the Czech Republic in 2015-16 experiences very fast growth. In spite of this, financing of operations and investments of entrepreneurship very seldom drops under 7 %.

3.2 Legal Regulation of Entrepreneurship, Government Incentives and Labour Code

The year 1859 was one of the most important milestones in the development of entrepreneurship. As early as in this year, the act that was to regulate entrepreneurship, the so-called Trade Licensing Code, was enacted. As part of the new economic policy and needs of modern business, the so-called freedom of trade that in principle repealed all regulations related to this field. The Commercial Code from 1862 that legalized free business competition was an essential addition to this act (Geršlová, 2003, p. 9).

The holders of trade licences must have complied with obligations laid down by the Trade Licensing Code. It was e.g. compliance with applicable provisions of opening hours, work overtime, work on Sundays and rest days and possible approvals of exceptions, on conditions of education and work of apprentices, health and safety at work of employees etc. (Geršlová, 2003, p. 9).

Particularly, Bata Shoe Company received preferential treatment in the form of tax exemptions. It was e.g. the tax advantage granted to Bata Shoe Company as the biggest export enterprise, having a form of a renewal of the decree of the Ministry of Finance of 17 May 1929 on Exemptions from the turnover tax for exports of leather footwear. In addition, Bata Shoe Company as a combined enterprise, had tax advantages over other firms regarding turnover tax for leather, rubber heels and soles etc. According to the applicable laws, for all types of leather that Bata Shoe Company made and used in the shoe manufacturing, paid fixed turnover tax of 1 %, when other, non-combined enterprises paid a fixed turnover tax of 3 %. In addition, in 1931 Bata Shoe Company, with the approval of the government, gained the so-called foreign exchange autonomy, being a general permission of the National Bank to use freely foreign currencies (Lehár, 1960, pp. 157-158).

A parallel with the above for today can be seen in the current government **investment incentives in** the Czech Republic that can be obtained by rather large and companies. These incentives result in the exhaustion of labour market with a record-breaking low level of unemployment (around 5 % in 2016) and the increase of wages without concurrent productivity of labour (also as a result of incentives in the form of exemptions, subsidies and compensations allowing these firms to provide attractive benefits). Despite the fact that the entrepreneurship is not typically in collision with investment incentives for large foreign players where direct collision rather with Czech small and mid-sized business (SMEs) exists, yet such incentives (apart from other influences) have an indirect impact on business, including entrepreneurship, e.g. through reduced ability to employ a local person, which as a result has a negative impact on depopulation of rural areas, or services in the region respectively.

The significant laws that related to entrepreneurship included the act of 19 December 1918 on eight-hour working hours. The actual working hours of employees could not last longer than eight hours in the period of 24 hours, or 48 hours weekly at maximum. The act applied to businesses that were subject to the Trade Licensing Code or were operated as a trade and also to the state-run factories and institutions (Buchtela and Štědrý, 1933, p. 13). Back then, it was a ground-breaking feat, however the working week lasted 6 days, i.e. not current 5 days. In addition, the employees did not have such massive protection as they have today.

At present, a new draft of the **Labour Code** is being open for comments[17] with a declared ambition to make the labour market in the Czech Republic more flexible. However, some seriously proposed solutions by the Ministry of Labour and Social Affairs head in the opposite direction. These are e.g. measures such as the obligation of an employer to provide work to employee without any stress, while sanctions may be imposed purely on the doctor's certificate regarding the mental harm of the worker. The duty to avoid isolation of a staff member working from home from other is another controversial measure. The arrangement of meetings of homeworking employees with their colleagues working in the firm is related to this. The transfer of an employee to a different position

17 *The draft amending Act No. 262/2006 Coll., the Labour Code, as amended, and other related acts, was presented in the interdepartmental comment procedure in 3/2016. The deadline to present the draft to the government was set for April 2016.*

with his/her consent poses another problem. For now, the employer could do so without his/her approval. Particularly in the times of economic crisis this measure may directly jeopardize enterprises that must very flexibly respond to the situation – a principle that have not changed over the centuries of enterprise. For the time being, the draft of the above mentioned Labour Code has not been approved in this version, however to even compromise solutions of the proposed solutions will not be a contribution to cultivation and support of healthy enterprise.

Thus, it is not surprising that the survey[18] of Association of SMEs and Crafts among young people on starting own business reveals that the business environment is perceived as not entirely friendly for starting business. A total of 72 % of respondents evaluate it as negative or rather negative. Students do not view the current situation as ideal for starting business (Břečková and Havlíček, 2015). And other authors add: "a new phenomenon was relieved – young people seem to insist on having a good work-life balance from the very beginning of their professional careers. For achieving it they find it more convenient to become employed rather than trying to start their own business" (Břečková and Lacina, 2016). Moreover, in the Czech Republic there is generally high administrative and legislative burden on business which is difficult to manage especially for micro enterprises. As shown by the latest analysis of AMSP ČR (Analysis of Crafts 2[19], 2016), this is also the reason why there is a significant decline in the dynamics with regard to the establishment of new craft trades. While in the last 15 years, the average was more than 24 000 new craft trades per year, in the last year, it is less than 10 000 of new craft trade licences.

3.3 History of Crafts (shoemaking), Bata's Influence and Influence of Industrialization

Until the end of the 19th century, the shoemaking was a craft, as its technology had not changed since the beginning of shoemaking. The tools, equipment and materials were passed from father to son for fifty or sixty generations[20] (Cekota, 2004, pp. 13-14). At the same time, the status of shoemakers had not changed either. The shoemaking together with tanning shared equally the last position in the hierarchy of crafts[21] (Cekota, 2004, pp. 33-35). While the craft as such had a significantly higher prestige, as opposed to the

18 *AMSP ČR (Association of Small and Mid-sized Enterprises and Crafts of the Czech Republic) (2013). Průzkum Podnikání mladých – Young Business (Survey on Young Business).*

19 *AMSP ČR (Association of Small and Mid-sized Enterprises and Crafts of the Czech Republic) (2016b). Analýza řemesel_2 (Analysis of Crafts 2).*

20 *This was also the case of Tomáš Bata's family. Tomáš Bata asked for a genealogical research of his family line as far as the records have permitted. Bata's shoemaking history goes back all the way to 1580 when Batia, a shoemaker, was born. Then the shoemaking craft was passed from father to son: Lukáš Batia (born in 1610), Lukáš Bata (born in 1660), Martin Batia (born in 1691), Martin Batia (born in 1715), Šimon Batia (born in 1755), Antonín Bata (born in 1802), Antonín Bata (born in 1844), Tomáš Bata (born in 1876). Tomáš Bata was the ninth in the family tradition.*

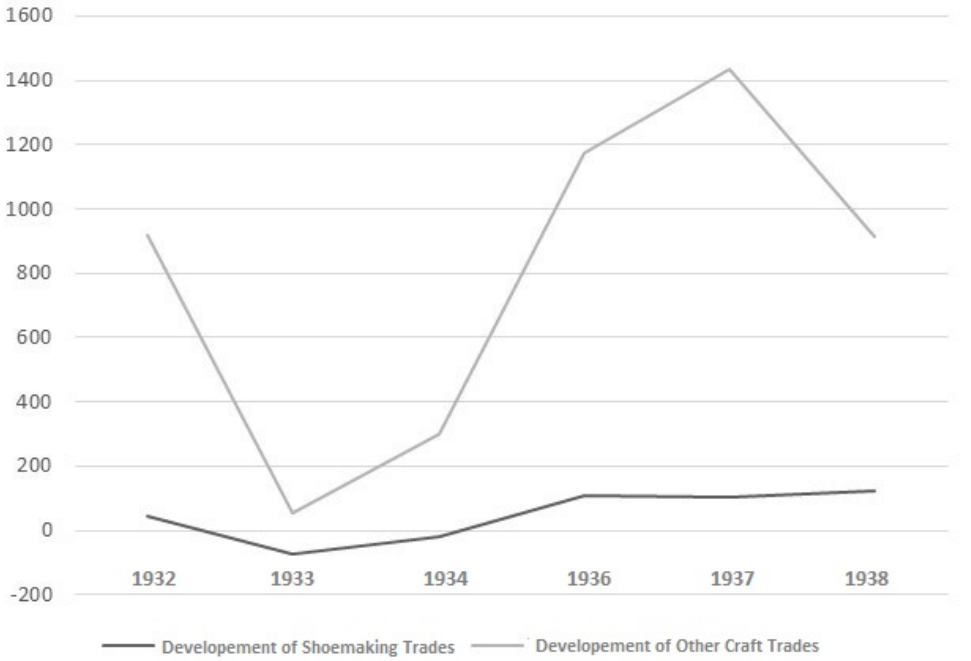
21 *We can find a related parental threat recorded in history archives from that that era that was more effective than a beating: "If you do not study, I will have you become a shoemaker." (Cekota, 2004, pp. 33-35).*

present time, probably due to long declining prosperity, specifically in the shoemaking industry, this industry was pushed down to lower positions from the prestige perspective.

In Europe, the shoemaking industry was still in infancy at the turn of the 19th and 20th centuries. **Only a small fraction of the total consumption was manufactured in factories**, specifically, lightweight footwear for urban citizens, house slippers and army boots. The shoemaking can thus be divided in two parts. The first part that was in minority, was manufactured using machinery. The second part, much more extensive, was manufactured by the household industry, being a mix of purchase and sale organisation and division of productions among individual entrepreneurs – shoemakers. In **the Czech lands, shoes were manufactured exclusively manually as late as in 1870s with no distinction (with exceptions) between the left and right foot until 1890s** (Cekota, 2004, pp. 35-36).

Significant changes in the shoemaking branch occurred practically at the end of the World War I. The **decline of handmade shoemaking that could not be stopped until the mid-1930s was related to the development of factory shoemaking** (see the Figure 2). Also consequences of economic crises in 1921-1923 and 1929-1933 contributed to the decline of this craft. The shoemakers, as the most numerous group of entrepreneurs were the most affected (Štroblík, 2009, p. 90). The shoemaking industry had already undergone a deep crisis before the monitored period, in 1907 and 1908. During these years, many shoemaking factories had to significantly reduce or stop entirely their production (Lehár, 1960, p. 27).

Figure 2: Development of Shoemaking and Craft Trades in 1932-38 (net increase/decrease)



Source: Own processing and calculations on the basis of data from the Národní archiv Praha (National Archive in Prague), box No. 1957.

Impact of the expansion of Bata Shoe Company to the decline of shoemaking trades should not be trivialized, but the great number of business liquidations was also detected, because the shoemaking trades were the most numerous ones. Lehár adds (1960, p. 64) "Regarding the sales situation both on the domestic and international market, this was mostly caused by low purchasing power of working population and also by high prices of goods." Some shoemakers, the oldest ones in particular, blamed the war for the decline of their trade. Many of them were larger manufacturers before the war, and then spent several years in the army and their trade perished and they had to start again and with no funds. They said that it was a duty of public officials to help such situation (The National Archives in Prague, box No. 1970).

The economic problems peaked in 1922, and Bata's factory in Zlin could not even be helped by double price reduction, in the autumn of 1921 and in the spring of 1922 and they still could not sell out goods from their full warehouses. Therefore, Tomáš Bata performed a surprising risk-involving operation when, as of 1 September 1922, he reduced the price of his shoes to half. At the same time, he cut the wages of the factory employees by 40 %, which he partially tried to compensate by e.g. cheaper foodstuffs and other goods for his employees. This reduction in shoe prices was well-received by the consumers, the stock was being quickly sold out, it put capital in motion and the firm cashed money the value of which was increased by deflation (Pokluda, 2004, p. 19).

Specifically in this point, it can be difficult to find a parallel with the present time, despite the fact that in 2008-2010 enterprises were facing no less significant problems in the times of modern crisis. However, among other the remedial action along the lines of reducing the employee wages by 40 % would be practically impossible today for legislation reasons, due to the current a rather rigid labour code.

Owing to the rationalization of production, Bata was able to sell shoes for prices that were below the level of shoe prices of the competition. In 1923, Bata Shoe Company increased the sales of shoes on the domestic market. In this had competition, many smaller shoemaking companies went bankrupt as they did not have sufficient working capital or were severely indebted. Not only factories, but small shoemaking entrepreneurs were primarily affected. Until the end of 1923, Bata also started to establish shoe repair shops, which were met with protests by small entrepreneurs (Lehár, 1960, pp. 88-90).

During the years of the Great Recession when the export of shoes from Czechoslovakia stagnated, Bata Shoe Company tried to offer new services to local customers. For this reason, Houses of Services were established where the customers were provided with full service when buying shoes. The company made marketing and advertising to perfection, and was generously introducing pedicure. Gradually, less successful companies were driven out of the market and market concentrations occurred and the market share of Bata Shoe Company amounted to 4/5. Many other producers responded to this trend by focusing their production on better quality and more expensive shoes, or sports shoes, such as Popper Chrudim or Chlud Otrokovice. In these years, many entrepreneurs lost their jobs and other professional movements were organised.

E.g. in 1931 when manifestation convention was held in Prague, Bata invited participants of this convention to Zlin, because he wanted them to see in person what they were protesting against. He offered jobs to many thousands of dissatisfied shoemakers, including those who wanted to continue to work independently and recommended them to establish repair cooperatives. He also proposed to start a new industry – chemical shoe cleaning for older entrepreneurs who did not dare to open modern repair shops. This proposal was issued in printed form as a 40 page brochure in 1931, and in principle it is a guide how to establish and organise repair shops and shoe cleaning shops. The proposal includes budgets for the furnishing of the shops with equipment for independent entrepreneurs and cooperatives, division of labour breakdowns by the number of workers, templates for keeping weekly accounts, loss and profit, and also drawings of layout of repair and cleaning shops, plan for the positioning of machinery and also their photographs with description and prices. This is demonstrated by his words written in the end of the proposal to increase employment in the shoemaking industry: "we do not mean to fight our colleagues-shoemakers who have honest thoughts about their craft. Those of you, we provide with our best experience in this proposal" (Štroblík, 2009, p. 93). However, the problem was that the investments in such modern shops that were to be subsidised by the Ministry of Trade from the fund for rehabilitation of the shoemaking craft, were not approved. The Ministry dealt with Bata's proposals, but following the consultations with representatives of shoemakers, the proposal was dismissed (Štroblík, 2009, p. 94).

The cheap Bata's footwear improved the competitiveness of the company in Czechoslovakia, but it resulted in the change of the structure of shoemaking industry– with trades and small-scale production being more frequently left with repairs of shoes, and other shoemaking and tanning businesses managed to stay on the market only when they selected a proper specialization, such as short-run production or fashion goods, straps, belts or manufacture of other leather goods, with such an example being Kazeto Přerov that was originally a shoemaking company, but under pressure from Bata Shoe Company it managed to shift production in time (Geršlová, 2003, p. 29).

At present, the parallel with Bata times with regard to the above can be seen e.g. in the field of market squeeze-out and reduced ability of prosperity of entrepreneur shops from centres of towns due to the massive development of retail sale in hypermarkets. The reduction of life in centres of — particularly smaller — towns and fewer services is the result. However, in larger towns of the Czech Republic, there are newly detected signals of the renaissance of small specialized shops resulting by the demand of inhabitants of these settlements. For the most part, these shops may not compete with prices, but usually by differentiation, quality and easy accessibility.

3.4 Development of Number of Trades and Business Environment

The competition between Bata Shoe Company and artisan traders resulted in the liquidation of small shoemaking entrepreneurs. At the beginning of 1921, the shoemaking craft was performed by 57 515 (State Statistical Office, 1927, p. 11) independent manufacturers, in 1928 the income tax was paid by mere 34 965 independent entrepreneurs (State Statistical

Office, 1932, p. 312). Thus, over 22 000, i.e. almost **40 % of independent shoemaking manufacturers** in Czechoslovakia **ceased their trade-related activities.**

These and other data were used to compile the following chart where other crafts are mentioned in addition to the independent shoemaking entrepreneurs. The data from 1921 when the census was made by the State Statistical Office are compared. The said census focused on census by the type of occupation of citizens. These data are compared with 1928.

Both tanning and leather-making crafts were chosen as Bata Shoe Company also affected these crafts. It is clear from the chart that particularly this craft had seen even more pronounced decline than the independent shoemaking craft, which is primarily examined in the given period. During 8 years, the tanning industry had seen a decline by almost 45 % when 510 from original 1134 entrepreneurs ceased their craft-related activities. In addition – to improve context – the rag trade was chosen as this craft was affect by advancement in technologies when new machines were gradually introduced in the manufacturing process. This craft posted almost a 26.5 % decline. For comparison purposes, we also included industries that were not related to the shoemaking industry or Bata Shoe Company at all, and which had not seen significant technology advancement, as with the previous industries. These are industries such as joinery, butchery and pork butchery, pharmacy, bakery and masonry. **On the contrary, these industries had seen an increase in trades** (see Table 1).

Table 1: Development of Entrepreneurs in Selected Crafts in 1921 and 1928

Craft Industry	Years		Increase (+) / decrease (-)	
	1928	1921	number	in %
Shoemakers	34,965	57,515	-22,550	-39.21
Tanners and leather makers	624	1,134	-510	-44.97
Cloth manufacturers	44,871	61,018	-16,147	-26.46
Joiners	20,823	20,155	+668	+3.31
Butchers and pork butchers	20,246	19,295	+951	+4.93
Pharmacies	1,208	1,199	+9	+0.75
Bakeries	12,701	10,565	+2,136	+20.22
Masons	4,055	3,391	+664	+19.58

Source: Own calculations and processing based on data from Census in the Czechoslovak Republic of 15 February 1921. II. volume, (Occupations of citizens). 4. part, (Czechoslovak Republic). Prague: State Statistical Office, 1927.czechoslovak statistics. Ř. VI, Census; volume 23, book 5, pp. 8-12 and from Statistics of directly paid income tax, tax from higher pay, directly paid annuity tax, general and special tax from earnings for 1928. Prague: State Statistical Office, 1932.czechoslovak statistics. Volume 82. Series VII, Public finance; book 7, pp. 308-315.

In 1929-1932, 9461 of independent shoemaking business were wound-up (Lehár, 1960, p. 153). During 1933, 1579 of entrepreneurs cancelled their trades (Štroblík, 2009, p. 94). In 1933, i. e. following the years of the Great Recession, 23 925 independent entrepreneurs businesses were registered (Zlin.estranky.cz). **From 1921 to 1933, 58.4 % of entrepreneurs ceased their craft-related activities.**

The parallel with the present situation is a rather distant one, however even now there is an **alarming trend in the development of entrepreneurship.** There is a clear decline in trades **that are the main source of income of the entrepreneur, or his family.** The ratio shits towards the part-time trades, i. e. as an extra income to employment. Neither of the above is economically good news. It means that it is not worth to conduct business as an entrepreneur and there are many reasons for this conclusion, one of them being perception and prestige of entrepreneurs in the society. The Global Entrepreneurship Monitor (GEM[22]) report mentions: "The image of entrepreneurs remains very bad, and less than half of our population considers successful entrepreneurs to have a high status. Experts are also very sceptical in this respect. It is necessary to work on creating positive examples." (Report on the Development of SME, 2014, p. 59.)

It is also the convenience of a younger generation who feel and often observed in their close vicinity that to build an enterprise of one's own mean a lot of work, responsibility and persistence, not always with a guaranteed result. Therefore, more and more run for the "safety" of employment (Please see the results of AMSP ČR research called Young business,[23] 2013). A role may also be played in this case by the periodically repeated social and political discussions regarding the hot topic of expense allowances, which can provide micro enterprises with a specific form of administrative relief of up to CZK 2 million (EUR 71,000) per year by giving them the opportunity to apply an expense allowance instead of conducting regular accounting. The way this works in practice is that the micro enterprise records only income (revenues) from business activity, applies an expense allowance to it, such as in the amount of 60 % (which is intended to reflect the approximate percentage of expenses necessary for achieving the particular income), and pays traditional income tax on the rest of the earnings. There are three different expense allowance percentages in the Czech Republic (40 %, 60 % and 80 % depending on the type of activity), and they have long been considered controversial by governing coalitions, since micro enterprises, through their existence and functioning, sustain regional infrastructure and social cohesion. Moreover, in the Czech Republic there is generally high administrative and legislative burden on business operators, which is difficult to manage especially for micro enterprises (Břečková, Havlíček, 2015).

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22 *Analysis of business activity within the Global Entrepreneurship Monitor (GEM) international project, conducted in 2013 (available from the Report on Development of SME and their support in 2013, which we refer to as Ministry of Industry and Trade (2014). Zpráva o vývoji malého a středního podnikání a jeho podpoře v roce 2013 (Report on the development of small and medium enterprises (SME) and their support in 2013), 2014 – based on the year of issuance – see the Reference Sheet.*

23 *AMSP ČR (Association of Small and Mid-sized Enterprises of the Czech Republic) (2013). Podnikání mladých – Young Business (Survey on Young Business).*

Conclusions

This paper aimed to survey the business environment from the perspective of entrepreneurship in 1920s and 1930s and the expansion of the now-phenomenal Bata Shoe Company in this period. The predominant aim of this paper is to trace the impact of the significantly development-oriented strategy of Bata Shoe Company to the steep reduction in numbers of entrepreneurs in the shoemaking field in the First Czechoslovak Republic. The aim was also to realistically describe business environment of that time with an accent on entrepreneurship, and to partially compare this with the environment in which we operate currently (finding implications for present).

Concerning the methodology, the research uses unique archive of statistical, descriptive and legislation resources from 1920s and 1930s. In order to compare the situation and to find parallels with the current situation of the business and particularly the entrepreneurial environment, expert analyses with an emphasis on craft trades and current researches made in 2013-2016 by the Association of Small and Mid-Sized Enterprises of the Czech Republic[24], in which one of the authors (Břečková) of this paper actively participated in person, were used.

The liquidation effect of Bata Shoe Company to entrepreneurship in the shoemaking industry could not be proved unambiguously, which is demonstrated by the following factors.

1. In Europe, the shoemaking industry was still in infancy at the turn of the 19th and 20th centuries. Only a small fraction of the total consumption was manufactured in factories. The later impact of the expansion of Bata Shoe Company to the decline of shoemaking trades in the region may not be ignored, but the great number of wound-up businesses is also detected, because the **shoemaking trades were the most numerous ones.** Moreover, the decline of handmade shoemaking that could not be stopped until the mid-1930s was significantly related to the development of factory shoemaking from the first decade of the 20th century. From 1921 to 1933, 58.4 % of entrepreneurs ceased their craft-related activities in this connection.

2. To improve the context and validate the statement that the impact of the development of the large-scale business by Bata Shoe Company existed, but also the **technology progress and the development of factory manufacture** had massively contributed to the liquidation of shoemaking businesses. The comparison with other selected industries, both the ones where industrialization was under way (introduction of machinery in the manufacturing process, reduction of manual work, such as rag trade) and those where the industrialization was not predominant (joinery, bakery and so on) was made in chapter 3.4 of this paper. The decline measured in dozens of percent with all industries with industrialization was demonstrated, while other industries without

24 AMSP ČR (Association of Small and Mid-Sized Enterprises of the Czech Republic, www.amsp.cz) regularly prepares expert analyses aimed at certain territories, themes or segments of small and mid-sized enterprises. One of the authors of this paper (Břečková) actively participates in the preparation of materials for data collection, their evaluation and interpretation.

industrialization (such as joinery, butchery and pork butchery, pharmacy, bakery and masonry) showed in turn increases of trades.

3. **World War I and related post-war sales and production crisis** was another factor that played the role in the reduction of crafts. It follows from historical sources that many artisans who participated in the war and survived, blamed the war as the factor why their business perished. The manufacture crisis related to the lack of basic raw materials for the shoe production and also the sales crisis that consisted in the poor purchasing power of citizens played an important role in bankruptcies of entrepreneurs.

4. The **character of the craftsman's shop** was a factor that could not be neglected. In contrast with factories, it is practically impossible to use new technologies in the workshop or to try new methods for the growth of the productivity of work, among other for financial reasons. In factories, better division of labour and organisation of work can be applied, while in the craftsman's shop where only master with journeyman and apprentice usually worked, this can be done only to a limited extent. This resulted in lower productivity of work and hard-to-achieve competitiveness.

5. Other factors with an impact of massive decline of entrepreneurship, specifically in the shoemaking industry in 1920s and 1930s included the then existing **legislation that provided significant preferential treatment to large companies** of certain type. This is described in more detail below in the characteristics of parallels with current problems of entrepreneurship.

The parallels with the current situation were found in the following areas.

1. The then existing legislation cannot be neglected as a significant factor making the position of the entrepreneurship even harder, as Bata Shoe Company received preferential treatment under some tax regulations. This preferential treatment had a form of turnover tax exemptions for the export of leather footwear. In addition, Bata Shoe Company paid a fixed turnover tax of 1 %, while other non-combined enterprises, including entrepreneurs paid the tax of 3 % (three times more). A parallel with the above can be seen in the current government investment incentives in the Czech Republic that can be obtained by rather large and often foreign companies. These incentives currently result in the exhaustion of labour market with a record-breaking low level of unemployment (less than 4.5 % in 2016) and the increase of wages without concurrent labour productivity (also as a result of incentives in the form of exemptions, subsidies and compensations allowing these firms to provide attractive benefits). Despite the fact that the entrepreneurship is not typically in collision with investment incentives for large foreign players (where direct collision rather with Czech SMEs exists), yet such incentives (apart from other influences) have an indirect impact on business, including entrepreneurship, e.g. through reduced ability to employ a local person, which as a result has a negative impact on depopulation of rural areas, or services in the region respectively.

2. The serviceability mentioned above is a direct parallel. In the past, manufacturing crafts were thus successful in the fields where they provided services to the public. This demonstrates a historical importance of services in regions, or smaller towns and villages. It is an area which is highly relevant due to the actual depopulation of villages nowadays. However, currently (as opposed to the times of the First Czechoslovak Republic) it is regionally very difficult to provide solid services in small settlements, and the government seeks ways for their improvement, but the motivation-related activities are not grasped and coordinated within the system, and thus have only a very limited effect. The social climate should currently focus on the new role of entrepreneurs which no longer irreversibly consists in filling the state budget, but in the area of social cohesion and sustainability of areas outside large cities where the main population drain is heading these days. Dysfunctional villages of ghosts in some areas of Spain or Portugal and other countries may serve as memento.

3. For the purposes of this paper, on the basis of a detailed analyses of available sources and our findings, it can be actually said, how the entrepreneurs coped with crises that occurred in the monitored period. The solution of some shoemakers (minority) was such that they managed to shift their businesses from manufacturing to repairing (servicing) activities. Some of them started specializing in certain type of footwear, such sports or luxury footwear. At present, the parallel with Bata times with regard to the above can be seen among other in the field of **market squeeze-out and reduced ability of prosperity of entrepreneurs' shops from centres of towns due to the massive development of retail sale in the form of hypermarkets etc.** As a result, the reduction of life in centres of - particularly smaller - towns, and lower serviceability can be observed. However, in larger towns of the Czech Republic, there are newly detected signals of the renaissance of small specialized shops caused by the demand of inhabitants of these settlements. In majority, these shops can hardly compete with price, but they usually can by **differentiation, specialization, quality and easy accessibility.**

4. The economic problems peaked around 1922 when Tomas Bata performed a surprising risky operation when he cut prices for his shoes to half. At the same time, he cut the wages of the factory employees by 40 %, which he, however, partially tried to compensate by e.g. cheaper foodstuffs and other goods for his employees. This reduction in shoe prices was well-received by the consumers, the stock was being quickly sold out, it put capital in motion and the firm cashed money, the value of which was increased by deflation (Pokluda, 2004, p. 19). Specifically here, a parallel with the present time is rather a distant one, despite the fact that in 2008-2010, enterprises faced no less significant problems in the times of modern crisis. **However, among other the remedial action along the lines of reducing the employee wages by 40 % would practically be impossible for legislation reasons, due to the current a rather rigid labour code.**

5. In any case, the findings showed that from 1921 to 1933 the 58.4 % of entrepreneurs ceased their craft-related activities. In this case, the parallel with the present situation is fortunately a rather distant one; however, even now there is an **alarming trend in the development of entrepreneurship.** There is a clear decline in artisan trades

that are the main source of income of the entrepreneur, or his family. The ratio shits towards the part-time trades, i.e. as an extra income to supplement employment (job). Neither of the above is economically good news. It means that it is not worth to conduct business as an entrepreneur and there are many reasons for this conclusion, one of them being **social perception of entrepreneurs and prestige of crafts in general.**

6. Until the end of the 19th century, the shoemaking was a craft, as its technology had not changed since the beginning of shoemaking. The tools, equipment and materials were passed from father to son for fifty or sixty generations (Cekota, 2004, pp. 13-14). At the same time, the status of shoemakers had not changed either. The shoemaking together with tanning shared equally the last position in the hierarchy of crafts (Cekota, 2004, pp. 33-35). While in general the craft as such had a significantly higher prestige, as opposed to the present time, probably due to long declining prosperity, specifically in the shoemaking industry, this industry was pushed down to lower positions from the prestige perspective. At present, the long-standing unpopularity of crafts together with the declining demographic curve and (overly) easily accessible secondary and university education caused a **painful lack of craft professionals and technical professions on the labour market in general.** Some prestige for crafts is to be redeemed by the so-called Year of Crafts[25] announced for 2016. And the trust in the honest and solid craft is to be renewed by the unique portal "Masters of Craft".[26]

More research related to the problem of the impact of Bata Shoe Company can be done with regard to the verification of the impact of Bata Shoe Company to other shoemaking factories in international markets, as Bata Shoe Company became the largest shoemaking company in the world in its time. Therefore, Bata Shoe Company had to face protests and boycotts of his shoes at the international level, not only in Czechoslovakia.

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25 In 2016, the AMSP ČR (Association of Small and Mid-Sized Enterprises and Entrepreneurs of the Czech Republic) launched a historically biggest domestic offensive in support of craft trades. The fundamental objectives of the project include the improved prestige of craftsman's work and professional associations, motivation of young generation and re-introduction of practical training at elementary schools. For more information please see: http://rokremesel.cz/o-projektu.

26 Internet search engine was created on the AMSP ČR platform for consumers www.mistriremesel.cz (Masters of Craft), offering the widest and most complex catalogue of craftsman.

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Indicators for Measuring Outputs of Innovative Initiatives in the Czech Republic

Indikátory měření výstupů inovačních iniciativ v České republice

VERONIKA BUMBEROVÁ, FRANTIŠEK MILICHOVSKÝ

Abstract

This paper focuses on the identification of a set of KPIs that are used in Czech companies to evaluate the outputs of innovative initiatives to maintain and improve organizational performance as a goal of implementation of innovations. The empirical evidence is based on a quantitative data, gathered through an email by structured self-assessment tool (check-list) which yielded 194 qualified responses. For the analysis of gained data there was used factor analysis within evaluation by factorial loadings. Results of the factor analysis provide possible groups according their similarity of variability and create new variables. Observed indexes were verified by coefficient Cronbach's alpha. Findings of the paper serve up suggestions, that especially financial performance indicators are statistical significant in market area and operation management.

Keywords

innovation, key performance indicators, innovation success, output, industrial companies, Czech Republic, factor analysis

Abstrakt

Tento příspěvek je zaměřen na identifikaci sady indikátorů KPI, které jsou v českých podnicích využívány k hodnocení výstupů inovačních iniciativ na udržování a zlepšování organizační výkonnosti jako cíle implementace inovací. Empirické zkoumání je založeno na kvantitativních datech, která byla sbíraná prostřednictvím e-mailů v podobě strukturovaného sebehodnotícího nástroje (tzv. check-list), což přineslo 194 kvalifikovaných odpovědí. Pro analýzu získaných dat byla použita faktorová analýza společně s hodnocením faktorové zátěže. Získané výsledky z faktorové analýzy poskytují možné skupiny na základě jejich vzájemné podobnosti variability a vytvoření nové proměnné. Zjištěné indexy byly ověřeny koeficientem Cronbachovo alfa. Výsledky příspěvku ukazují, že obzvláště finanční ukazatele jsou statisticky významné v oblasti trhu a řízení provozu podniku.

Klíčová slova

inovace, klíčové výkonnostní indikátory, inovační úspěch, výstup, průmyslové podniky, Česká republika, faktorová analýza

JEL Codes

L21, L25, O31

Introduction

Public policy is increasingly concerned about promoting innovation in order to stimulate economic growth, employment and ecological sustainability (Kleinknecht et al., 2002; Ambrozová et al., 2015). The innovation efforts of companies are viewed as the most important factor in developing and sustaining competitive advantage (Tidd et al., 2011). The ability of firms to adapt in their external environment and to remain competitive is closely related to their capacity to innovate and continuously upgrade and renew their knowledge bases, products and structures (Varis, Littunen, 2010). Innovation is extensive and diverse, and therefore there are currently a large number of definitions. In this paper, the term innovation is defined according to OECD/Eurostat (2005) definition as "the implementation of a new or significantly improved product, process, organizational or marketing method".

There is a need for enterprises to measure the performance of their innovation initiatives to ensure effectiveness of their investment (Kleinknecht et al., 2002; Tidd et al., 2011; Dewangan, Godse, 2014). Innovation management itself is evolving and presents enterprises with tough challenges in performance measurement. The use and interest in performance measurement systems by enterprises has got increased importance over the years because the effectiveness and efficiency of these activities not only determine a firm´s competitive advantage, but its very survival. According to Dewangan and Godse (2014, p. 537) to make innovation sustainable within the enterprise, it is important to have a well-defined innovation performance system that comprises the performance measurement scheme that defines and optimally clusters the key performance indicators (KPI) across appropriate dimensions i.e. optimally groups tangible and intangible KPIs so that enterprises can derive maximum benefits from the innovation program.

If we focus to the Czech companies, they have insufficient knowledge in the field of measuring the outputs of the implemented innovations and therefore it is important to know by which indicators and/or methods are possible to measure innovation effectiveness and success (Koudelková, Milichovský, 2014). So, the central research question of this paper is what kinds of KPIs are used by Czech enterprises to measure output of innovation employed? Main goal of the contribution is to find key indicators for measuring output of innovation and identify, which one of these indicators reflects the success from implemented innovation in the Czech companies.

The research paper is divided into three parts: (1) designing of innovation background with the focus on innovation and organizational performance literature (2) statistical analysis of data acquired from the survey carried out by a reliability test and factor analysis as statistical tool and (3) discussion of the gained results.

1 Theoretical Background

In general, innovation research can be approached from the perspectives of an individual, an organization, project-oriented and a nation or economic, focusing on personal traits, innovation management, customers as important source of innovation and a nation's source of

competitiveness, respectively. A review of the relevant literature reveals that organizational level innovation studies can be grouped into four research streams (Lin, Chen, 2007; Soderquist et al., 1997) concerned with:

1) types of innovation or innovation typology;
2) antecedents, determinants or critical success factors of organizational innovation;
3) developing conceptual models that deal with technology and innovation and finally;
4) assesses of successful implementation of technology and innovation practices adopting a consequence or result approach and explores the relationship between innovation efforts and firm performance.

This research focuses on the fourth stream stated above. The rationale is that organizational performance tends to be the ultimate goal of implementing innovation. Empirical research suggests that innovation is positively related to firm performance, although in some studies direct effects have not been found (Mavondo et al., 2005; Lin, Chen, 2007; Marques, Ferreira, 2009). From an organizational perspective, real innovation success resides in the marketplace. Devising innovative marketing measures is essential to help organizations transform good ideas and good products into sales revenue and profit (Lin, Chen, 2007). Measurement of performance helps the companies to organize day-to-day activities to reach strategic objectives.

However, correct division of used metrics is important. Industrial companies have different needs what and how to measure innovation performance and effectiveness and do not tend to display results mainly in the financial units (in comparison with companies in consumer market). As Dewangan and Godse (2014) pointed out, traditional financial performance measures worked well for the industrial era, but they are out of step with the skills and competencies companies are trying to master today. These metrics should be included into the group of Key Performance Indicators (KPI), which are used in the most crucial fields in present and future development of the company. Therefore, KPI represent a tool, by which measurement of performance, finding of relevant results and their interpretation in correct way shall be possible (Zaherawati et al., 2011; Kerzner, 2011; Ratnayake, 2009). Individual metrics of corporate performance and its results are included in one of the four groups of indicators (Parmenter, 2010; Hornungová, 2014):

- Key Result Indicators (KRI) tells how we fared in a particular area or in terms of critical success factors. They are usually confused with KPI. They provide clear view of the right direction organization is going to. If not, tell what is necessary to do.
- Result Indicators (RI) provide what have been done. RI provides summarization of activities in connection with financial activities in company.
- Performance Indicators (PI) gives information what we do. All of these indicators help to the company to achieve own strategies.
- Key Performance Indicators (KPI) describe instruction what we should do to significant improving corporate performance. This group has become set of metrics, which are focused on those aspects of organizational performance that are most important to its current and future success.

Traditionally, researches used objective data such as sales, return on equity, assets, investments (ROE, ROA, ROI), and profit to reflect organizational performance (Lin, Chen, 2007,

Kmieciak et al., 2012; Žižlavský, 2014) based on predominantly on financial criteria. To the late 20th century witnessed the emergence of several multi-dimensional IPM systems designed to address this need providing some means of integrating a combination of financial and non-financial measure to measure the tangible and intangible value created by the enterprises such as customer based (e.g. customer satisfaction, number of visitors, loyalty level), process based success or learning perspective in the context of performance measurement.

In innovation performance measurement literature are generally two approaches in this area (Dewangan, Godse, 2014, p. 538):

1) The first approach discusses the relative metrics and demerits of performance indicators (e.g. patent counts, R&D inputs and new products launched).
2) The second approach focuses on optimally clustering innovation performance metrics (IPM) and may discuss related indicators as well.

All used KPI metrics depend on industry and clear defined innovation strategy, which is the main driver of firm performance and should be developed and executed as an integral part of the business strategy (Dewangan and Godse, 2014). According to Tidd et al., (2011) none the less it is possible to develop a number of indicators which give some underpinning to what will otherwise be rather subjective judgments about the innovation management capability of a company.

2 Methodology

The primary research originally is focused on the performance evaluation of enterprises was conducted in the end of year 2015 in the Czech Republic. From the population, 527 companies were randomly selected to participate in this survey. Totally 157 checklists were returned (relative amount 29.79 %). As the largest group of companies, which gave back checklists, was companies from manufacturing industry (14.04 % of companies). The second group was group of services (10.06 % of companies).

Following logic of Tidd et al. (2011), we constructed a simple checklist of indicators and assigned a score to each of them so as to develop a profile of measurement system of innovations and their outputs. This simple self-assessment tool focuses attention on some of the important areas of innovation performance identified from the literature review (e.g. investment in motivation programs of employee, R&D, operation management and overall measurement indicators of innovation in sales, market share and profit).

Respondents were offered a list of indicators, from which they could select indicators used in evaluating of their innovation. The check-list was open with possibility of adding another indicators they used in own company. For each item it was simply put a score between 1 (considerably lower values), 2 (lower values), 3 (indicators comparable level), 4 (a higher value) to 5 (considerably a higher value). The next issue relating to the overall assessment of the situation in the company in terms of successfully realized (implemented) innovations with regard to numerical data (not in scale) as approximate share (%) successfully implemented develop-

ment projects (in financial terms). For inter-item analysis is further use to check the scales for internal consistency or reliability. Cronbach´s coefficient alpha is calculated for each scale.

To process the results of the check-list survey there were used both of descriptive statistics and correspond analysis. These methods were applied on the selected data set, which are involved on realization of innovation projects in Czech companies. The data were processed by using the statistical program IBM SPSS Statistics 24. The provide characteristics of the limitations of our research and its potential further direction.

The factor analysis is based on the selection of correlation and partial correlation coefficients. The correlation coefficient represents the closeness of linear dependence of individual variables and partial correlation coefficients. The partial correlation coefficient shows a similarity of two variables in such a situation that the other variables are assumed constant. If it is possible to explain the dependence of variables using common factors, the partial correlation coefficients are very small, close to zero.

To assess the suitability of the factor analysis, two tests can be used as evaluation of factor analysis (Řehák, Brom, 2015; Tarnanidis et al., 2015; Conti et al., 2014): (1) Kaiser-Meier-Olkin (KMO) is a coefficient which could reach values between 0 and 1. Its value consists of the rate of squares sum of the correlation coefficients and squares sum of the correlation and partial coefficients. (2) The usage of Bartlet's sphericity test lies in testing the null hypothesis that the correlation matrix of variables is unit (on diagonal, there are only ones, others are zeros). If the null hypothesis is rejected, the factor analysis may be used for the defined variables.

For the purposes of verifying the factor analysis, Cronbach's alpha indicator must be used. This indicator is seen as a reliability coefficient, which is used as kind of analogue of the correlation coefficient. Usually, it is possible to reach values in the interval <0.1>. Zero as extreme value describes the situation in which individual variables are uncorrelated. On the other hand, the value of 1 describes the correlated variables. When the value is closer to 1, there is a reported higher degree of conformity (Hrach, Mihola, 2006).

However, a high Cronbach's alpha does not imply that the measure is one-dimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is one-dimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Cronbach's alpha is not a statistical test; it is a coefficient of reliability (or consistency). It could be written as a function of the number of test items and the average inter-correlation among the items. Below, for conceptual purposes, we show the formula for the standardized Cronbach's alpha:

$$\alpha = \frac{N \times \bar{c}}{\bar{v} + (N + 1) \times \bar{c}} \tag{1}$$

- where
    - o N is equal to the number of items,
    - o c-bar is the average inter-item covariance among the items,
    - o v-bar equals the average variance.

If the values were to increase the number of items (N), it is possible to increase Cronbach's alpha. Moreover, if the average inter-item correlation is low, the alpha will be low. As the average inter-item correlation increases, Cronbach's alpha increases as well. The values of Cronbach's alpha could be from 0 to 1. If the values were close to 0.5, it signifies a bad level of internal consistency. Over 0.7 means that the value is acceptable and values close to 1 are excellent (Hinton et al., 2004).

3 Results

Based on the statistical characteristics of the examined group, it could be presented conclusions as an approximate result, limited by the resulting reliability. In the results of the paper there are characteristics of research barriers and future research possibilities.

For purpose of factor analysis there is necessary to reach value of Kaiser-Meier-Olkin test at least 0.5. For indicators in factor analysis, KMO is 0.793 which has become in high level of acceptance. Factor analysis reveals the reduction of surveyed corporate performance indicators which companies use in their own measurement processes.

Factor analysis reveals the reduction of surveyed corporate performance indicators which companies use in their own measurement processes of implemented innovations. The main input into factor analysis was a correlation matrix which shows the individual correlation values of the chosen indicators.

The total variance of the performance indicators is explained by means of eigenvalues, which represent the total variance explained by each factor. The eigenvalues show that only five items reached the minimum value of 1. From this point of view, Extraction Sums of Squared Loadings with cumulative percentage is important. Factor analysis extracted four factors, which explains 61.45 % of the variance. This result confirms the good factor result of the interpreted variance.

In order to assess whether it is possible to use the factor analysis, Kaiser-Meyer-Olkin method (KMO) and Bartlett's test of sphericity were used. The KMO method is based on selective correlation and partial correlation coefficients. The KMO value range is between 0 and 1. Each variable correlates perfectly to itself (approximate to 1), but has no correlation to the other variables (approximate to 0). In our case, the KMO reached value is almost 0.8 (exact value is 0.793), which means that the performed level of usefulness of the factor analysis reaches high value. Bartlett's test of sphericity is a statistic test used to examine the hypothesis that the variables are correlated or uncorrelated. According to the KMO, no correlation was found with other variables (Sig = 0.000). Nevertheless, Bartlett's test of sphericity is significant because of the value, which is lower than 0.05.

Table 1: Rotated Matrix within Indicators for Innovation Measurement in Company

	I1	I2	I3	I4
Turnover	0.828	0.260	0.141	0.117
Net profit	0.813	0.159	0.072	- 0.042
Income of new products	0.766	0.111	0.091	0.038
Market share	0.703	0.102	0.167	0.144
Warehouse stock of inputs	0.231	0.801	0.065	- 0.008
Warehouse stock of final products	0.175	0.827	0.127	0.088
Motivate program's costs	0.297	- 0.011	0.743	- 0.095
Operative costs	- 0.050	0.409	0.695	0.209
Active debts	0.256	0.177	- 0.166	0.723
Delivery time changes	- 0.087	- 0.093	0.232	0.765
Customer satisfaction with new products	0.460	- 0.297	0.415	0.057
Price level	0.262	0.219	0.365	0.312
Number of employees	0.448	0.319	0.354	0.105
Cronbach's alpha	0.837	0.784	0.485	0.304

Source: own work

4 Discussion

For the correctness of the factor analysis and acceptance of the results, it is important to get a Cronbach's alpha value of over 0.5. Otherwise, there are requirements to improve the sample, or the check-list. Cronbach's alpha is a measure of internal consistency that is closely related to a set of items as a group. A "high" value of alpha is often used (along with substantive arguments and possibly other statistical measures) as evidence that the items measure an underlying (or latent) construct.

Titles of indexes were designed according to similar characteristic of individual indicators in index. According to observed results, acceptable values of Cronbach's alpha were found only for two indexes of four gained: (1) Market results factor (0.837), and (2) Warehouse stock factor (0.784). Other two factors were under minimal value of Cronbach's alpha. Final values calculating of acceptable factors need the transformation of individual coefficients. These coefficients have become the significance of used elements. Their sum total must be equal to 1. The index of the factor of production was defined by this procedure:

$$\textit{index of market results } (I1) = 0.2851 \times T + 0.2455 \times NP + 0.2347 \times I + 0.2347 \times M \quad (2)$$

- where
  - o T – Turnover
  - o NP – Net profit
  - o I – Income of new products
  - o M – Market share

index of warehouse stock (*I*2)= 0.453 7× *WI* + 0.5463 × *WF* (3)

- where
  - WI – Warehouse stock of inputs
  - WF – Warehouse stock of final products

On the basis of the calculation indexes, the mean values were found. These values represent the average factor for each set of data recorded. We can say that these indexes reflect average bonds within a factor. This is due to the range of possible answers listed in the check-list.

To modify the indexes, it is necessary to use a rating scale for companies, which determines whether the tool is used. For the calculation of the total index, it is necessary to put the answers of individual respondents into the appropriate index formula.

Table 2: Descriptive Statistics of Observed Indexes

	Mean	**Variance**	**Std. deviation**
Index of market results	3.4581	0.596	0.77219
Index of warehouse stock	3.0321	0.665	0.81527

Source: own work

Indicators in index of market results (turnover, market share, net profit and income from new products) report the highest score in terms of successful implemented innovation up to 75 % among respondents. Similarly, warehouse indicators reached values of inputs and of final products at almost same level. By using the acquired indexes there have been identified which indicators should be used when measuring success of implemented innovations in industrial environments.

On the basis of the calculation index of the market results and index of warehouse stock, the mean value of these indexes were found. These values represent the average value for each company in data set. This value reflects low bonds within factor. They are due to the range of possible answers listed in the check-list. To modify the indexes, it is necessary to use a rating scale for companies, which determines whether the tool is used. For the calculation of the total index, it is necessary to put the answers of individual respondents into the appropriate index formula.

Conclusions

Nowadays, lots of companies use performance measurement system, which is important not only for the actual management and other interested stakeholders, but also for overall sustainable corporate development. The reason is that KPI´s indicators help organizations derive maximum benefits from the innovation programs.

The paper is focused on the area of innovation outputs in relation to performance management, especially to KPIs. The main goal of the research was to find out set of the KPIs indicators (whether are tangible or intangible), which are used by Czech enterprises to

measure the outputs of innovation and especially those, which the best reflects the success from implemented innovation.

Empirical research deals with factor analysis that gives up reduction of surveyed corporate performance indicators for realized innovations by individual company as main input of own measurement process. Main input into factor analysis was correlation matrix. Results of the factor analysis are four component groups. All of these groups had to be evaluated by Cronbach's alpha (with value over 0.5), which provide applicability of individual factors. Therefore, there were accepted only two indexes of four, which fulfil conditions of Cronbach's alpha. They are (1) Market results and (2) Warehouse stock. These indexes confirm that companies focus their attention on market area and operation management.

The reasons for usage indexes are turbulent environments in market, which put requirements on new approaches in day-to-day activities. Companies use mainly financial metrics for measurement innovation performance than non-financial. Financial results in companies don't support complex view on innovation process, which reflect products and artefacts rather than ideas and processes (Milbergs and Vonortas, 2005).

To make sustainable innovation, company must have well-defined corporate performance system, which is focused on appropriate dimensions of optimally groups tangible and intangible KPIs that companies can derive maximum benefits from the innovation program (Dewangan, Godse, 2014).

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Accounting and Controlling Business Management System

Systém účetního a controllingového řízení podniku

DAVID MAREŠ

Abstract

The author examines an efficient accounting and management system that gives a true picture of an economic reality with a direct link to the consumer to achieve maximum effectiveness of financial planning and the business as a whole. By this, the accounting information system and its role across the entire business is defined and linked to other subsystems of the business information system at the same time. On the basis of inputs and outputs from information accounting system, the author makes conclusions with regard to linking the accounting information system to preferences and social status of the customer, both using Customer Relationship Management or through his consumption expenditures in relation to his consumption needs pyramid and preferences. The paper expands the scientific knowledge in broader context, as it does not examine the given factors of business success separately, but rather in its entirety forming a direct link consumer – accounting information system – controlling – financial plan – performance of individual departments – business performance.

Keywords

controlling, plan, model, accounting system, enterprise, consumer

Abstrakt

Autor zkoumá efektivní systém účetního a manažerského zachycení ekonomické reality s přímou vazbou na spotřebitele a to tak, aby bylo dosaženo maximální efektivity finančního plánu a tím i celé firmy. Dochází tak k vymezení účetního informačního systému a jeho role v celé firmě, ale i ke správnému napojení do ostatních podsystémů obchodního informačního systému. Na základě vstupů a výstupů z informačního účetního systému dochází autor k závěrům ohledně napojení účetního informačního systému na preference a sociální statut zákazníka, ať již prostřednictvím Customer Relationship Management nebo prostřednictvím jeho spotřebních vydání v závislosti na jeho pyramidě spotřebních potřeb a preferencí. Daný příspěvek rozšiřuje vědecké poznání v širších souvislostech, protože nezkoumá dané faktory úspěšnosti firmy zvlášť, ale jako jeden propojený celek tvořící přímou vazbu spotřebitel – účetní informační systém – controlling – finanční plán – výkonnost jednotlivých oddělení – výkonnost firmy.

Klíčová slova

controlling, plán, model, účetní systém, podnik, zákazník

JEL Codes
M10 M21, M4

Introduction

Each businessman, business, bank or other organisation conducting business or lending money, investing or entering an industry must be sure of its performance and the stability of the given industry. The stability of the given industry and performance are reflected in the financial plan of the given organisation through the accounting information system. Therefore, we may predict that industries that are stable and can be more easily predictable for the purposes of a financial plan will have an easily measurable performance. Nevertheless, for easy measurability, both accounting information system and other business systems must be properly set. All system settings must be directly linked to the customer who may or may not be connected to our accounting system using Customer Relationship Management. A good setting of accounting information systems results in right outputs and assessments. Therefore, we may conclude that external surrounding environment represented by customer and inputs is reflected in the financial plan – in the business controlling management; to reflect changes with customers, the business controlling management must set a correct accounting system going beyond the statutory regulations tailored specifically to cover the needs of proper reporting and financial plan creation for business management. We may expect that industries that are directly connected to the market and consumer behaviour will be the stable ones; in these industries we can see strong relation of the customer and the market's stability with the problem of financial planning. To simplify, we can say that there is a connection between the type of customer and his need and consequent behaviour resulting in the economic activity i.e. the purchase of the given product(s); with such economic activities of the customer being captured in the accounting system e.g. through analytical evidence related to each product, but also to individual economic centres. The accounting system is then used by the controlling that summarizes the data and provides guidance to the business to put even more emphasis on the performance of each economic centre (department).

Given insufficient scientific basis of the problem, the aim of this paper is to propose an efficient accounting and management system that gives a true picture of an economic reality with a direct link to the consumer to achieve maximum effectiveness of financial planning and the business as a whole. The assumption is a sufficient knowledge of the existing scientific knowledge, understanding of the essence and meaning of the accounting system and its setting with its outputs and finding the direct relation of the consumer to the financial plan and controlling.

1 Overview of Literature

The paper deals with the problem of an accounting system and controlling in broader context and gives a general overview of the accounting system and controlling in relation to the consumer. Naturally, the accounting standards that are e.g. dealt with by Darabos (2014) in his scientific paper also play an important role. However, the author of this paper is aware of the fact that the use of international standards may result in making comparisons of performance of subsidiaries within a single multinational company

with global reach. With regard to accounting systems, Mogdel, Al-Rjoud and Al-Shwiyat (2015) oriented at industrial Jordan firms, listed at Amman Stock Exchange can be seen as a beneficial one. The authors focus on proper functioning and maintaining of accounting systems not only from the HR perspective, but from organisational aspect, as well. They also define the significance of the accounting system. The opinion is supported by France (2013) who defines the significance of an accounting system in the context of the financial accounting system, as a system that should prevent "surprises" in the economic activities of the business, and acknowledges the main accounting system as a tool serving the top company management (CFO); this opinion is also supported by Prasad and Green (2015), who acknowledge the accounting system as the system for capturing accounting information and providing valuable information; the same opinion is shared by Emadeldin (2014) who especially sees the importance of the accounting system for small and medium-sized businesses; this opinion can also be found in Salim and Ferran (2014) who understand the accounting system as the system connected automatically to the customer (such as his warehouse, being the so-called CRM or Customer Relationship management).

The paper of Knežević, Stanković and Tepavac (2012) who acknowledge the significance of the accounting system as the source of data, but also as the basis for decision making in the company and part of the accounting system as a subsystem in the business system is also an important one. At the same time, they put an emphasis on the main function of the accounting system as the source of data flowing to both internal and external users with regard to changes that are being made in corporation. This opinion is shared by Dragan (2014) who understands the accounting system as the management accounting system the aim of which is to achieve objectives of the business unit and who sees the accounting system – management system as a system connected to other accounting systems as it is also referred to by Knežević, Stanković and Tepavac (2012). The problem of controlling mentioned in the paper is very well defined in Cornel and Lavinia-Maria (2012), who defined controlling as a system that makes sure that the organisation is effective and that informs of deviations from the plan (Nowosielski, 2014). Nowosielski (2014) then analyses the significance of controlling indicators that should give the answer to questions related to the business performance. Baran (2009) also leans towards the significance of controlling and emphasizes its significance in the times of economic crisis as a response to the increased costs arising from the increase of prices and unstable economic situation and insufficient economic development and growing competition on both domestic and international market. Baran (2009) subsequently analyses the problem of controlling in relation to the existing crisis in Slovakia and recommends some measures.

Regarding the significance of the accounting system and financial plan monitoring the deviations and is incorporated in the controlling, we must also mention the paper of Mareš (2015) where the author tries to use (without using CRM, as not every business has individual subsystems of business information system connected directly to the customer) the problem of consumer behaviour to make a more accurate prediction that will have an impact on relevance and accuracy of the financial plan in relation to reality. His research was also based on hands-on experience and previous research in the field of the consumer behaviour, e.g. (Mareš, 2012) and (Mareš, 2013).

2 Accounting System and its Significance

The accounting system is not only viewed from the perspective of standards. As seen by Darabos (2014, p. 604) "nowadays regarding the globalization the need for comparing statements has become increasingly urgent, which requires the harmonization of the regulation at different levels.

Systems of accounting striving for commonality and being outstanding from the aspects of their relevance and utilizations are the followings:

1 United States Generally Accepted Accounting Principles (US GAAP)
2 EU directives accepted by the member states of the European Union
3 Standards published by the International Accounting Standards Board (IASB), the so-called International Financial Reporting Standards (IFRS)"

The accounting information systems must be seen as the system dedicated for the internal use by the firm. Mogdel, Al-Rjoud and Al-Shwiyat (2015, p. 5) posited that "An accounting information system is considered among the most important minor systems within the administrative system at an industrial firm facility. This is due to the financial data derived from the system, and which is needed by internal and external parties and which is the result of input processing which includes economic data and events".

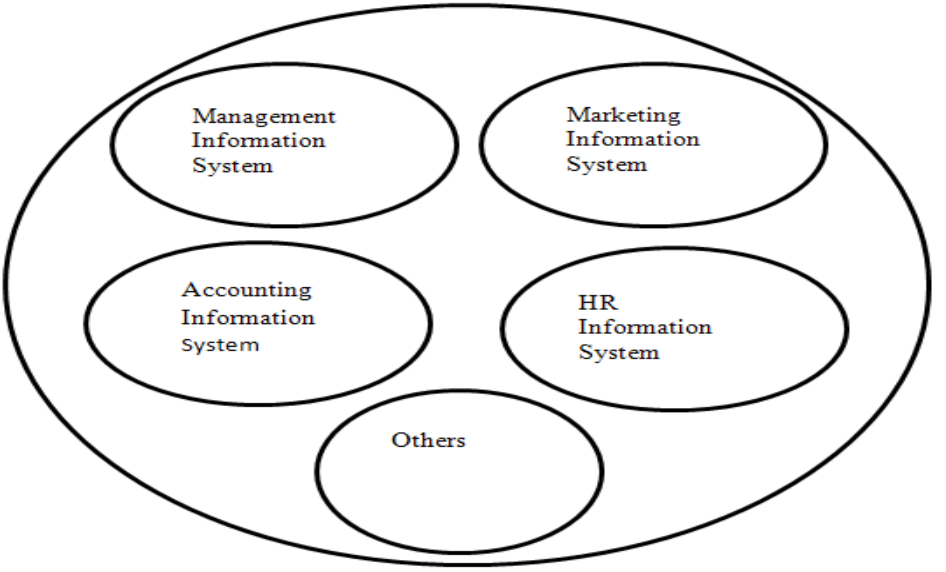
This accounting system is then designated for the financial director. "For most organizations with a legacy financial accounting system, there may not be a single "aha moment" precipitating a need to upgrade. More likely, a series of technology, security and cost red flags will signal the system is no longer capable of meeting the company´s current demands. Gone are the days when the CFO´s purview was confined to chief "number cruncher" for planning, budgeting and forecasting, now the CFO is being looked to by corporate management to play a strategic role in managing the business at a high level, while also excuting day-to-day financial decisions" (France, 2013 p. 57).

Knežević, Stanković and Tepavac (2012, p. 63) define the information system as "Information system in the company should provide all necessary information for decision making. Accounting information systems are continuously upgraded, apart from other types of information systems". And then Knežević, Stanković and Tepavac (2012, p. 63) add that "accounting information system can be viewed as a special discipline and as part of a large system and presents a discipline that is oriented towards practice".

3 Accounting System Settings and its Outputs

The accounting system should be seen in broader context of the business information system.

Figure 1: Business Information System and its Subsystems



Source: Based on Knežević, Stanković and Tepavac (2012)

"Business information system includes the following sub-systems: 1. Management Information System, 2. Accounting Information System, 3. Marketing Information System, 4. HR Information System and others" (Knežević and Stanković and Tepavac, 2012 pp. 63).

An assumption that the accounting system must be correctly "connected" to other systems to be able to receive inputs from other systems and to provide outputs at the same time which will ensure the overall efficiency of the whole system can be inferred from the above.

Mogdel, Al-Rjoud and Al-Shwiyat (2015, p. 19) recommend:

1) "Organize training course for the employees in the employment of accounting information systems for raising the efficiency of the individuals who work at this field.
2) Establish a database that is suitable to the requirements of costs for the purposes of improving production costs.
3) Conduct more research in this field in order to enhance the level of production costs to achieve the maximum benefit from the accounting information system.
4) Conduct future research concerning the evaluation of the role of accounting information systems in improving the internal audit and improving the work of internal auditing committees, as well as exploring the effective use of accounting information systems to enhance the quality of the commodities of the industrial firms."

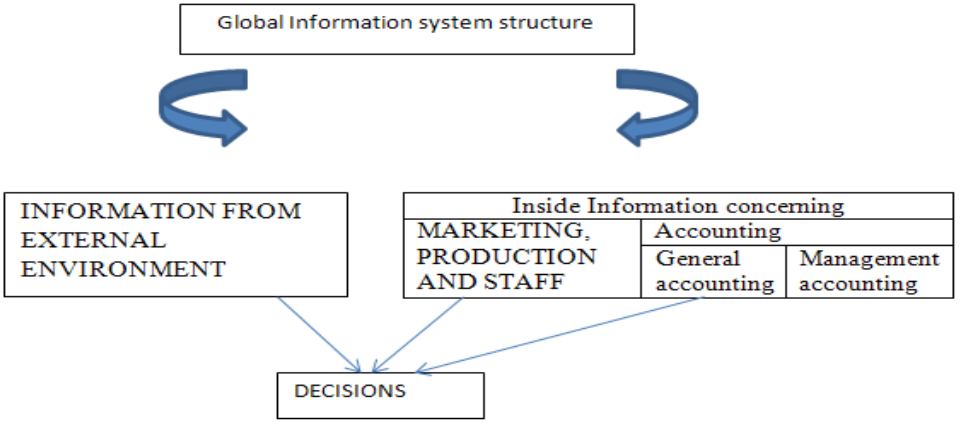
In case of the above, we may expect performance of functions as mentioned by Knežević, Stanković and Tepavac (2012, p. 64): "Two main functions of an accounting system are: 1) rendering accounts function and 2) company management function."

The authors posited that the primary function of accounting system is to be oriented towards meeting needs of external users (provided financial communication of the company with its environment. The second function is to be oriented towards meeting needs of internal users. All functions of the accounting system are used for planning, controlling, budgeting etc. The accounting system is based on the double entry book-keeping and its help to get more information for making various business and financial decision.

If we focus on the accounting system and its outputs, we often encounter no distinction between the terms accounting system and management accounting. The author of this paper believes that the term accounting system is broader than management accounting as the accounting system incorporates all economic information and management accounting is exclusively designated for internal needs of managers.

Dragan (2014, p. 174) adds to the management accounting that "in order to achieve the objectives of each entity, the accounting management is one of the main source of information and data, presented in a performance report enabling decision making. The use of management accounting is very important for the management act because the external environment contributes to increase the interest in accounting information and data."

Figure 2: Global Information System Structure



Source: Dragan, 2014, p. 174

In this regard, the author of this paper contradicts Dragan (2014), and as opposed to Dragan (2014), he understands the accounting system in broader context than as shown by the components referred to in the figure below.

Table 1: Output from the Management Accounting System

Financial accounting	Management control
Financial statements (financial position, financial performance, changes in capital and their cash flow)	Controls efficiency and effectiveness of achieving objectives
Managerial accounting	**Internal Audit**
Organizing a system for measuring the activity Cost calculation Providing information Facilitating taking decisions	Systematic reviews

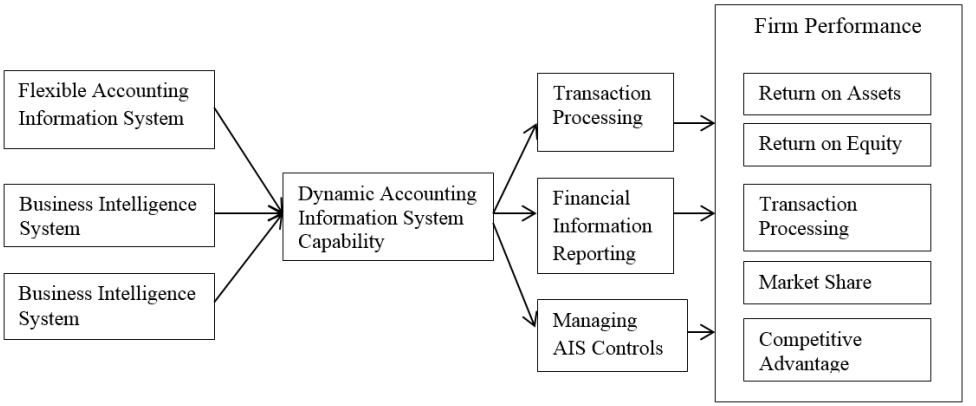
Source: Dragan, 2014, p. 174

To achieve a greater validity of the concept of the difference between the accounting system and management accounting system we may also give the definition and outputs according to Prasad and Green (2015, p. 123) "accounting information systems (AIS) capture and process accounting data and provide valuable information. However, in a rapidly changing environment, continual management of the AIS is necessary for organizations to optimize performance outcomes. We suggest that building a dynamic AIS capability enables accounting process and organization performance."

The relation – definition between the financial accounts and management accounts in terms of MIS (Management Information System) needs to be mentioned, according to Fibírová, Šoljaková, Wagner and Petera (2015, p. 18) "it is effective to differentiate the accounts according to the user of accounting information and also according to the sort of solution which is the most suitable for resolving various deliberative tasks. When managing financial accounts and compiling accounting statement there is an important demand on conforming to certain rules which guarantee completeness of the showed accounting information, its reliability and comparability in time and among enterprises to external users."

Further according to Fibírová, Šoljaková, Wagner and Petera (2015, p. 31) "in professional literature which deals with definition of aims and contents of management accounts, its main role is pointed out. This role lies in investigating, sorting, analysis and presentation (statement) of the information, namely in such a way which will enable managing staff to purposefully control the business, i.e. manage the relation between expended sources and achieved results, influence basic factors of the economic development of the company, support its performance and ameliorate its financial position".

Figure 3: Conceptual Model



Source: Prasad and Green, 2015, p.127

The figure above confirms the difference between the concept of management accounting system and accounting system as a whole. Knežević, Stanković and Tepavac (2012, p. 65) add regarding the significance of the concept of accounting system as a whole that "changes in features of corporation lead to changes in the management. Faced with risks, the company´s management significantly improved its theoretical and methodological solutions as well as practice regarding management."

Nowadays the accounting system must be opened for changes in planning methods, implementation new techniques and external changes. The authors posited that the accounting information system meets the management´s request as an active and creative system.

4 Controlling, Financial Plan and Consumer

As described above, the accounting system serves the needs of both management and external users. Nevertheless, it was important to mention the significance of the accounting information system for small and medium-sized businesses.

According to Emadeldin (2014, p. 156) "Accounting Information Systems (AIS) are a tool which, when incorporated into the field of Information and Technology systems (IT) were designed to help in the management and control of topics related to firms' economic-financial area. But the stunning advance in technology has opened up the possibility of generating and using accounting information from a strategic viewpoint. Since this is important for all firms, it is more important even for medium-sized and small ones which need this information to deal with a higher degree of uncertainty in the competitive market. "

As described above, each accounting system has its own inputs and outputs, according to Knežević, Stanković and Tepavac (2012, p. 65) "accounting information system deals with:

1. Measurement or quantification of business events in monetary forms (by recording in accounts) – INPUT
2. Data processing in business books and drawing accounting reports – PROCESS, and
3. Publication of financial statements, with which the accounting communicates with internal and external users thus giving them information necessary for business and financial decision making – OUTPUT."

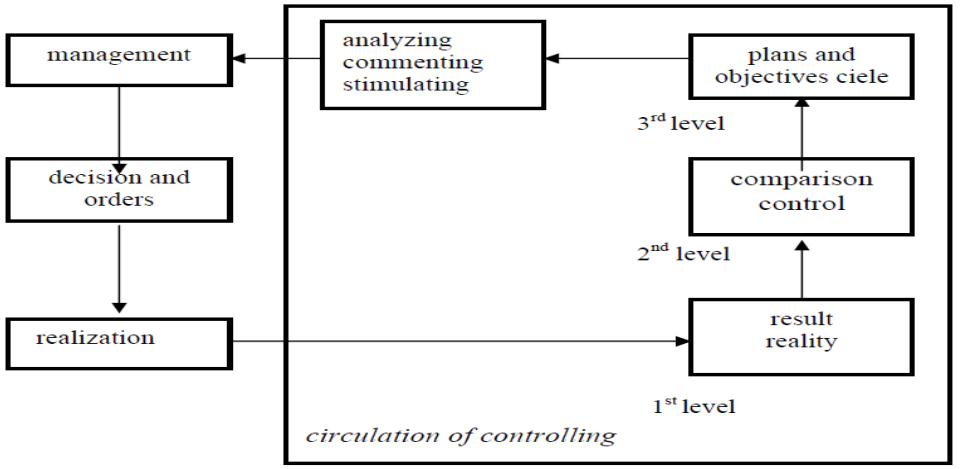
In the text below, we will not base our assumptions on the fact that the given firms using CRM (Customer Relationship Management) According to Salim and Ferran (2014, p. 25) "many small and medium sized businesses are currently operating thanks to the large number of inexpensive applications that handle their front office. These businesses also leverage the many accounting packages available in the market. However, their operations are frequently limited by the bottleneck present between the two systems."

However, it is necessary to define the importance of controlling which is directly linked to CRM.

According to Cornel and Lavina-Maria (2012, p. 305) "controlling consists of verifying whether everything occurs in conformities with the plans adopted, instructions issued and principles established. Controlling ensures that there is effective and efficient utilization of organizational resources so as to achieve the planned goals. Controlling measures the deviation of actual performance from the standard performance, discovers the causes of such deviations and helps in taking corrective actions."

According to Baran (2009, p. 655) "controlling includes the introduction of systematic planning, the efficient control and continuous management of individual processes enabling the improvement of conditions for making decisions of responsible workers and simultaneously the lower measure of uncertainty. In general, controlling can be characterized as a system, the purpose of which is to improve the company management on the basis of objective records and the objective evaluation of all economic events in the company."

Figure 4: Circulation of Controlling

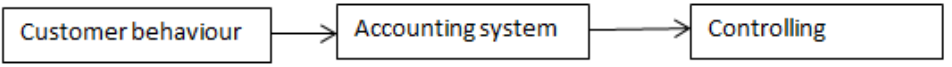


Source: Baran, 2009, p. 657

As mentioned above, the accounting information system uses inputs and outputs. The economic transactions are the most frequent inputs; the outputs are then used by managers and external users. Subsequently, the entire accounting information system must be understood in the broader context in relation to the customer behaviour and output in the controlling.

The give system does not have to limit only to inputs which present economical transactions already put into practice (accounted for) and outputs but it can be used in a wider context, e.g. it is possible to use Business intelligence and/or CRM (Customer Relationship Management) to estimate customer behaviour and further effects of customer´s behaviour on the financial plan. CRM through IT technologies in selected companies and industries allows a direct connection to customer´s stock and ascertainment of his immediate needs: it is automatically connected to business information system. This information can also be noted in data stock of business intelligence and can be further used to analysing of trends and preferences of customers for financial plan determination needs in the years to come.

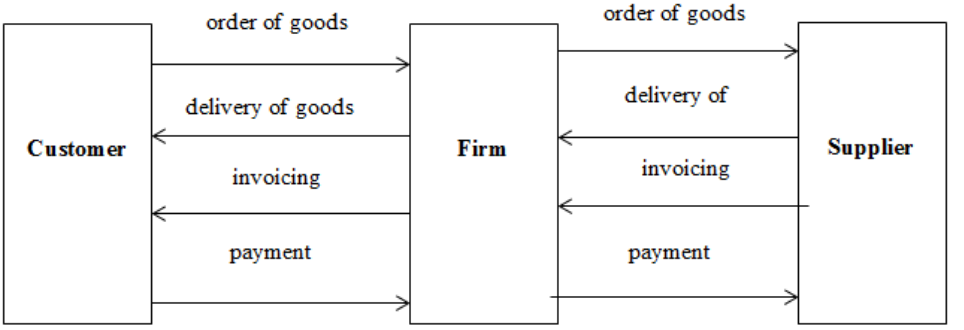
Figure 5: Definition of Relationships between the Consumer Accounting Information System and Controlling-based Business Management



Source: Prepared by the author

The figure above maps the problem, the customer behaviour – his shopping and shopping preferences are reflected in the accounting system in the form of posted economic transactions as shown more accurately in the figure below with the inclusion of supplier relationships.

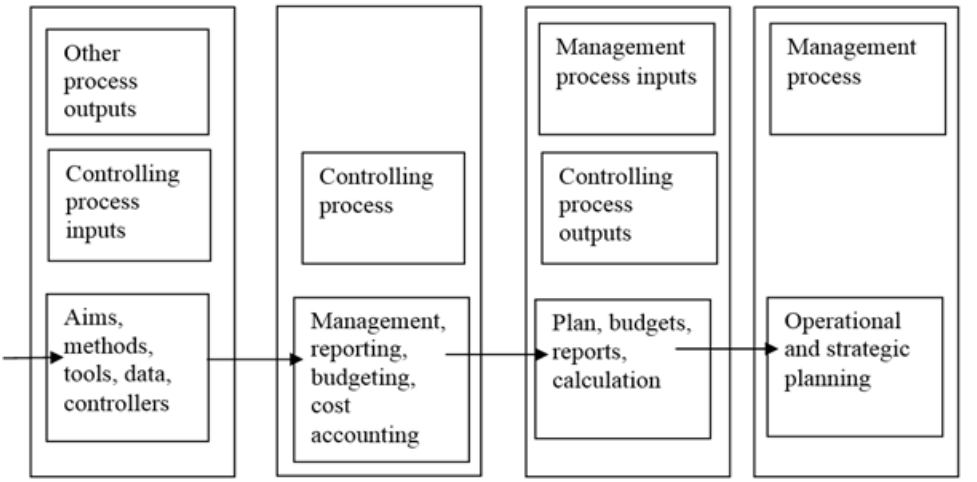
Figure 6: Supplier – Customer Relationships



Source: Prepared by the author

The relationships above are then analysed by the controller using the accounting information system which should be effective. As adds Nowosielski (2014, p. 448) "an efficient controller contributes to the achievement of business goals. Therefore, it is clear that, by making an assessment of economic performance of a given company an indirect assessment of the controlling processes is being made. However, despite the fact that every modern enterprise has a very well developed performance measurement system, it is very rare for this system to encompass result of controlling processes as well."

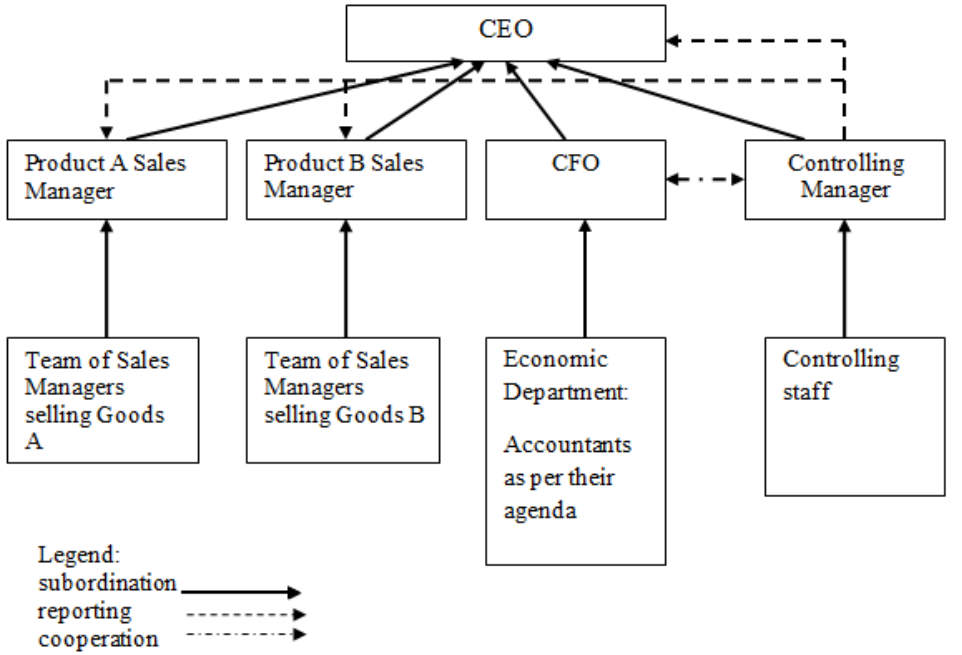
Figure 7: The Idea of Process Approach to the Issue of Controlling



Source: Nowosielski, 2014, p. 448

The inputs above may be processed in the business organisation structure – as given in Mareš (2015, p. 410): We base our assumptions from the simplified model of a business firm that sells daily needs products (two products) and sensitivity to changes in expenditures of customers thus may be quickly reflected in the performance of the financial plan.

Figure 8: Method for Monitoring of Financial Plan of Business



Source: Mareš, 2015, p. 410

The figure above defines the problem of the relationship between the market – consumer – accounting system and financial plan – controlling. In the following context:

The firm performs sales activities using its sales department and the results of their activities are posted by economic department in the accounting information system, the data are used by controlling to report on the performance of each department and the firm as a whole using financial plan performance reports for each of the departments and firm as a whole.

On the basis of the above, we may assume that (Mareš, 2015, p. 410):

- CEO sets the financial plan and motivates subordinates from sales departments to fulfil it.
- Sales department managers are responsible for adherence to and fulfilment of the financial plan.
- Controlling managers or their subordinates report on the financial plan to the department manager and CEO.
- CFO cooperates with controlling and implements analytical evidence where proceeds for the relevant goods are posted for its needs. E.g. 604.001 – Proceeds for Goods A, 604.002 Proceeds for Goods B.

Therefore, we monitor the performance of objectives using the accounting information system and at the same time we want to set the financial plan to be realistic and to reward its performance.

When the plan is created and performed we should use the "projection of consumer behaviour containing the following elements (Mareš, 2015, p. 411):

a) sensitivity analysis of income and expenses of the consumer
b) creation of future reserves of the consumer
c) future income and expenses of the consumer".

According to Mareš (2012, p. 120) the preconditions for the sensitivity analysis are

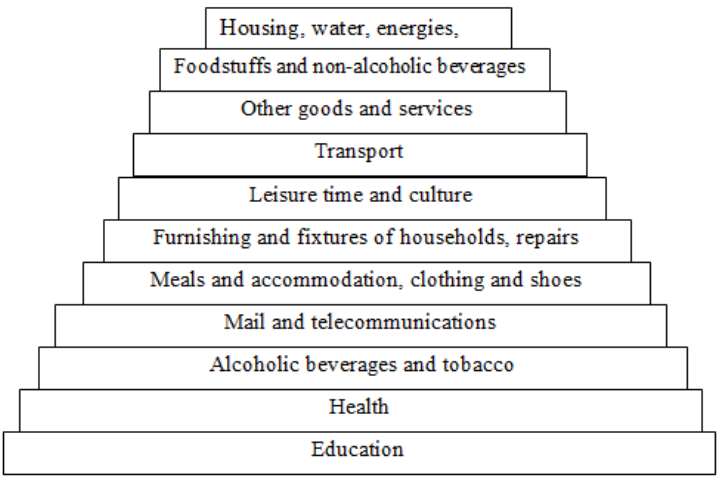
a) history of natural person
b) current situation of natural person (current income and expenses)
c) future of natural person (perspective of ability to keep the job, future income and expenses and their variability.

Given the points above, we must clarify who our customers are from the following perspectives (Mareš, 2015, p. 411):

a) economic situation of our customer (future, past with regard to the income)
b) social status
c) consumption preferences.

Then the preferences may be estimated or consumer expenditure – needs pyramids below can be created with regard to the consumer. Based on the above, we may e.g. draft a pyramid of consumer needs.

Figure 9: Pyramid of Consumer Needs

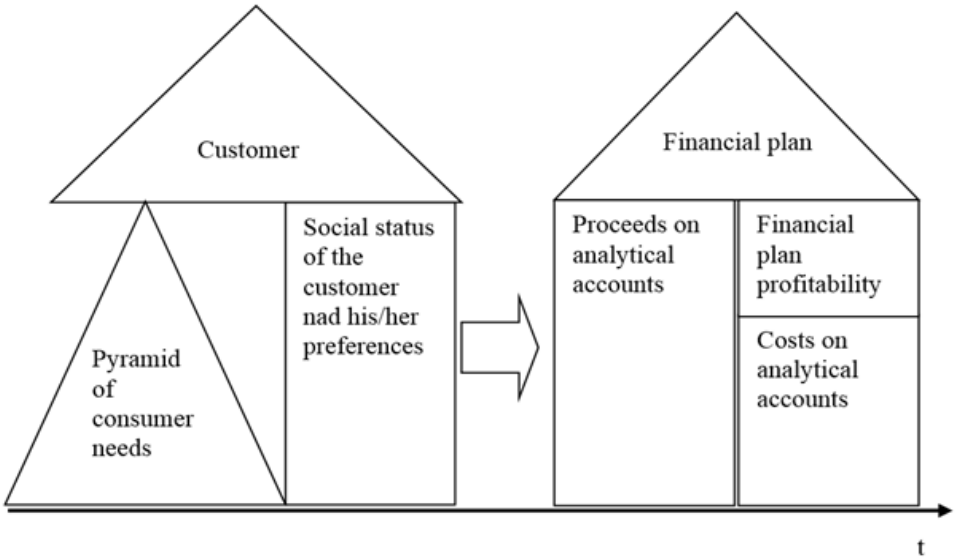


Source: Mareš, 2015, p. 412

From the above (we must take into account consumer behaviour in time, not only expenditures for the given items in the given year) we may analyses consumer behaviour who may change his consumer expenditures in time. In this case, the items are listed in order by their share in the consumer expenditures from the highest to the lowest share (Mareš, 2015). From the above, we may predict the invariability in the structure of e.g. consumer expenditures, i.e. movements between individual items based on consumer expenditures. At the same time, the changes in time against the preceding year can be analysed in order to analyse the trend.

On the basis of the analyses above, please see Mareš (2015), we may arrive to the main pillars of the financial plan creation.

Figure 10: Main Pillars of the Financial Plan Creation



Source: adapted from Mareš, 2015, p. 414

Conclusions

Given insufficient scientific basis of the problem, the author of this paper aimed to propose an efficient accounting and management system that gives a true picture of an economic reality with a direct relation to the consumer to achieve maximum effectiveness of financial planning and the business as a whole. Therefore, in the paper, the accounting information system and its role across the entire business is defined and "linked" to other subsystems of the business information system at the same time. In addition, the analysis and prediction regarding the estimated inputs and outputs of the accounting system and their use for both external and internal users were made. The conclusions were made with regard to linking the accounting information system to preferences and social status of the customer, both using Customer Relationship Management or through his consumption expenditures in relation to his consumption needs pyramid and preferences. The paper expands the scientific knowledge in broader context, as it does not examine the

given factors of business success separately, but rather in its entirety forming a direct link consumer – accounting information system – controlling – financial plan – performance of departments – business performance. On the basis of the previous research of the effective functioning of the firm in relation to the surrounding environment of the firm, the paper presents correct setting and use of links based on customer behaviour through the pyramid of consumer behaviours that are subsequently reflected in the fulfilment of the financial plan. If the connection is effective, this results in the best performance of the business and brings a comprehensive overview of the business management.

The author of this paper assumes that further research in different directions will be performed, e.g. by using international standards to measure the performance of individual branches in different states during the accounting period and their relation to the consumer behaviour and link to TOP management remuneration.

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Determinants of the Profitability in the Czech Banking Industry

Determinanty rentability v českém bankovním sektoru

IVETA PALEČKOVÁ

Abstract

The aim of this paper is to estimate the banking profitability determinants of the Czech commercial banks during the period 2004-2014. For estimation of banking profitability we used three common measures, namely the Return on Assets, Return on Equity and Net Interest Margin. We estimated twelve determinants of banking performance. The effect of the determinants of banking profitability is estimated using panel data analysis. The data set is consists of seventeen commercial banks in the Czech Republic. The results show that the profitability was positively influenced by the bank's size, capitalization, credit risk, level of concentration, ownership structure and bank's market share. Number of branches of the bank had the negative impact on ROA and ROE. on the other hand, the variables Gross Domestic Product, interest rate, liquidity risk, riskiness of bank's portfolio and affiliation with financial conglomerate have not got the significant influence on profitability of the Czech commercial banks.

Keywords

performance, return on assets, return on equity, panel data analysis, bank-specific factors, market-specific factors, banking sector, Czech Republic

Abstrakt

Cílem příspěvku je odhadnout determinanty rentability českých komerčních bank v období 2004-2014. Pro odhad rentability bank jsou použity tři ukazatele rentability, kterými jsou návratnost aktiv, návratnost kapitálu a čistá úroková marže. V příspěvku je odhadován vliv dvanácti faktorů ovlivňujících rentabilitu rozděleny do tří základních skupin. K odhadu determinantů rentability je využita analýza panelových dat. Datový soubor se skládá ze 17 českých komerčních bank. Výsledky odhadu ukazují, efektivnost je pozitivně ovlivněna velikostí banky, její kapitalizací, úvěrovým rizikem, stupněm bankovní koncentrace, vlastnickou strukturou banky a podílem banky na trhu. Naopak počet poboček banky má negativní vliv na ROA a ROE. U faktorů hrubý domácí produkt, riziko likvidity, rizikovost bankovního portfolia a příslušnost k finanční skupině nebyl zjištěn statisticky významný vliv na rentabilitu českých bank.

Klíčová slova

rentabilita, ROA, ROE, analýza panelových dat, bankovní specifické faktory, tržní specifické faktory, bankovní sektor, Česká republika

JEL Codes

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Introduction

The aim of this paper is to estimate the banking profitability determinants of the Czech commercial banks during the period 2004-2014. First we estimate the performance of the Czech commercial banks. Performance refers to how adequately a financial firm meets the needs of its stockholders, employees, depositors and other creditors, and borrowing customers (Rose and Hudgins, 2013). We calculate three profitability indicators, especially Return on Assets, Return on Equity and Net Interest Margin. For estimation of profitability determinants we use panel data analysis. The data sets consist of 17 Czech commercial banks. We simultaneously estimated the influence of twelve bank-specific, industry-specific and macroeconomic factors.

The structure of the paper is following. First section presents the empirical literature regarding the profitability determinants in banking sector. Second section describes using methodology and data. The profitability ratios are presented and brief information about panel data analysis is described. Next part of this section presented selection of variables. Third chapter shows the empirical analysis and results and discussion of findings. Last part of the paper concludes results.

1 Literature Review

Several empirical literatures estimated the determinants of banking profitability in selected countries. The previous studies divided the factors influencing the profitability of banks into internal and external factors or bank-specific, industry-specific and macroeconomic determinants. We can mention e.g. Kosmidou et al. (2008) who considered five bank-specific measures and four measures representing the influence of market structure and macroeconomic conditions. the measures used as internal determinants of performance are: cost to income ratio as an indicator of efficiency in expenses management; ratio of liquid assets to customer and short term funding to represent liquidity; ratio of loan loss reserves to gross loans as an indicator of banks' asset quality; ratio of equity to total assets representing capital strength; and the total assets of a bank representing its size. As external determinants they considered two which represent the influence of macroeconomic conditions (the rate of GDP growth and inflation) and the other two of financial market structure (concentration in the banking industry and stock market capitalization).

Naceur and Goaied (2008) used five banks' characteristics indicators as internal determinants of performance: the ratio of overhead to total assets, the ratio of equity capital to total assets, the ratio of banks' loans to total assets, the ratio of noninterest bearing assets to total assets and the log of bank assets. And also they used two macro-economic variables: inflation and GDP per capita growth. Kosmidou et al. (2008) summarized that the main conclusion emerging from previous empirical studies is that internal factors explain a large proportion of banks profitability; nevertheless external factors have also had an impact on their performance. Some recent studies also focus on the impact of regulations on banks performance and profitability (e.g. Barth et al., 2003, 2004), and report only weak evidence to support that bank supervisory structure and regulations affect bank profits.

Černohorská (2015) used the two most common profitability ratios, i.e., return on equity and return on assets as endogenous variables in regression analysis for estimation of factors influencing bank profitability of the Czech banks and their international parent companies. As exogenous variables she selected bank size, the bank's capital adequacy, the ratio of high-risk loans to assets, interest margin, the cost/income ratio, market concentration, inflation, gross domestic product per capita, taxation rate, and the central bank's interest rate. The studied factors' influence on bank profitability was demonstrated only for ČSOB and Société Générale using regression analysis. For ČSOB, it was demonstrated that inflation level and the amount of the central bank's interest rate influenced the return on assets ratio and that capital adequacy and market concentration influenced the return on equity ratio for Société Générale.

Fišerová et al. (2015) analysed the role of the economic fundamentals on the foreign-owned banks. They concluded that the economic fundamentals affect the performance of foreign-owned banks and cannot reject that economic fundamentals of the host country influence the performance of a foreign-owned bank operating in that country. Their analysis hinted that in explaining the determinants of the banks' performance the macroeconomic indicators were not sufficient. They also found evidence of the fact that more capitalized and operationally efficient banks outperform their peers. Furthermore, a low non-performing loans (cost of risk) ratio was another key factor of foreign-owned banks' performance.

Kosmidou et al. (2008) investigated the impact determinants on UK owned commercial banks' profits, measured by return on average assets (ROAA) and net interest margins (NIM). They found that capital strength, represented by the equity to assets ratio, is the main determinant of UK banks' profits providing support to the argument that well capitalized banks face lower costs of external financing, which reduces their costs and enhances profits. They found that the efficiency was negative and significant. That suggested that efficiency in expenses management is a robust determinant of UK bank profits. Kosmidou (2008) and Pasiouras et al. (2006) also confirm this inverse relationship for Malaysia, Greece and Australia.

The findings of Sufian and Habibullah (2009) suggested that bank specific characteristics, in particular loans intensity, credit risk, and cost have positive and significant impacts on bank performance in Bangladesh, while non-interest income exhibits negative relationship with bank profitability in this country. The results suggested that size has negative impact on return on average equity, while the opposite is true for return on average assets and net interest margin. As for the impact of macroeconomic indicators, they found that the variables have no significant impact on bank profitability, except for inflation, which had negative relationship with banks profitability in Bangladesh.

Shehzad et al. (2013) used a dynamic panel model for more than 15 000 banks from 148 countries from 1988 to 2010 and examined the relationship between size, growth and profitability of banks. They did not reject the hypotheses that the variability of bank profitability and the level and variability of bank growth are independent of bank size. They also found that bank growth and bank profitability were independent of each other. Demirgüç-Kunt and Huizinga (1999) used bank-level data for 80 countries in the years 1988-1995 and

confirmed some findings in earlier research, for instance a positive relationship between capitalization and profitability, and a negative relationship between reserves and profitability. The findings of the paper stated that foreign ownership is associated with higher interest margins and bank profitability, especially in developing countries. They also found that a larger ratio of bank assets to gross domestic product and a lower market concentration ratio lead to lower margins and profits, controlling for differences in bank activity, leverage, and the macroeconomic environment.

Ben Naceur and Goaied (2008) estimated the impact of bank characteristics, financial structure, and macroeconomic conditions on performance of Tunisian banks'. They suggested that banks that hold a relatively high amount of capital and higher overhead expenses tent to exhibit higher net-interest margin and profitability levels, while size was negatively related to bank profitability. They also suggested that private banks were relatively more profitable than their state owned counterparts. Macroeconomic conditions had not impact on Tunisian banks' profitability.

Ben Naceur and Omran (2008) examined the impact of bank regulations, concentration, financial and institutional development on Middle East and North Africa countries commercial banks margin and profitability. They found that bank specific characteristics, namely bank capitalization and credit risk, had positive impact on banks' NIM, cost efficiency, and profitability. on the other hand, macroeconomic and financial development indicators had not impact on bank performance. Sufian and Chong (2008) estimated the determinants of banking profitability in Philippine during the period 1990-2005. They found that the bank-specific determinant had a statistically significantly impact on bank profitability. Size, credit risk, and expense preference behaviour were negatively related to banks' profitability, while non-interest income and capitalisation had a positive impact. Their results suggested that inflation has a negative impact on bank profitability of the Philippines banks. Pasiouras and Kosmidou (2007) investigated the performance of domestic and foreign commercial banks in 15 EU countries during the period 1995-2001. They found that profitability of both domestic and foreign banks was affected by bank specific characteristics, financial market structure and macroeconomic conditions. Their results showed that all variables had significant relationship with bank profitability, although their impacts and relation is not always uniform for domestic and foreign banks.

Smirlock (1985) examined the link between profitability and a bank's economic cycle and also the relationship between size and bank profitability, which relates to a bank's capital adequacy. He found a positive and significant relationship between size and bank profitability, large banks have a tendency to grow foreign capital and, therefore, seem to be more profitable. Kosmidou et al. (2008) measured bank's size by its total assets and argued that large bank size might result in scale economies with reduced costs, or scope economies that result in loan and product diversification, thus providing access to markets that a small bank cannot entry. Short (1979) stated that size is closely related to the capital adequacy of a bank since relatively large banks tend to raise less expensive capital and appear more profitable. Also Stavárek and Polouček (2004) confirmed the positive relationship between bank size and profitability. However, other study suggested that little cost saving can be achieved by increasing the size of a banking firm (Berger et al., 1987). Eichengreen and Gibson (2001) suggest that the effect of a growing bank's size on

its profitability may be positive up to a certain limit. Beyond this point, the impact of its size could be negative due to bureaucratic and other factors. Hence, the size-profitability relationship may be expected to be non-linear.

Kosmidou et al. (2008) found that coefficient of the cost to income ratio was negative and significant, suggesting that efficiency in expenses management is a robust determinant of UK bank profits. Guru et al. (1999), Kosmidou (2008) and Pasiouras et al. (2006) also confirm this inverse relationship for Malaysia, Greece and Australia respectively.

The results concerning liquidity are mixed. Kosmidou et al. (2008) confirmed that the liquidity ratio had a positive effect on ROAA. on the contrary, Molyneux and Thorton (1992) and Guru et al. (1999) reveal a negative effect of liquidity on bank profits. Kosmidou (2008) and Pasiouras et al. (2006) also confirm this negative effect of liquidity ratio on net interest margin. In contrast, Bourke (1989) estimated an opposite result, while the effect of credit risk on profitability appears clearly negative (Miller and Noulas, 1997). Athanasoglou et al. (2008) explained this result by taking into account the fact that the more financial institutions are exposed to high-risk loans, the higher is the accumulation of unpaid loans, implying that these loan losses have produced lower returns to many commercial banks.

Kosmidou et al. (2008) found that the impact of loan loss reserves was positive and significant on NIM, suggesting that higher risks result in higher margins for UK banks. Berger (1995) concluded that the relationship between bank concentration and performance in the US depend critically on what other factors are held constant. Bourke (1989) and Molyneux and Thornton (1992) found that ownership status is irrelevant for explaining profitability.

Hoffmann (2011) found a negative link between the capital ratio and the profitability in US banking sector. Other results point to a non-monotonic relationship between the capital ratio and profitability, supporting the efficiency-risk and franchise-value hypotheses. Also Kosmidou (2008) found that profitability is positively associated with well capitalized banks and lower cost to income ratios.

The last group of profitability determinants deals with macroeconomic control variables. Bikker and Hu (2002) suggested that such correlation exists, although the variables used were not direct measures of the business cycle. Sufian (2011) and Davydenko (2011) examined the negative impact of GDP on ROA. But Kosmidou (2008) argued that the growth of gross domestic product (GDP) is positively related to bank profitability, while inflation rate is negatively related to bank profitability. Kanwal and Nadeem (2013) found that GDP had an insignificant positive effect on ROA, but an insignificant negative impact on ROE and equity multiplier.

2 Methodology

In this section we describe the banking profitability, namely Return on Assets, Return on Equity and Net Interest Margin. Next, we describe brief information about panel data analysis and panel unit root test which is used for empirical analysis of profitability deter-

minants in the Czech banking sector. Last part of this section presents data and selection of variables.

2.1 Banking Profitability

Most of empirical studies measure profitability by two measures which are Return on Assets and Return on Equity. Several studies (e.g. Fišerová et al., 2015; Sufian and Habibullah, 2009; or Alkassim, 2005, among others) add other profitability variable, namely Net Interest Income.

As Palečková (2016) described the profitability is the indicator of management's success or failure in its strategic and leadership activities. Return on Assets (ROA) measures the bank's ability to efficiently employ its assets. As such, it is considered by many analysts to be one of the best single ratios for evaluating the performance of management. ROA equals net income divided by total assets and thus measures net income per currency unit of average assets owned during the period. Table 1 presents the relationship between the value of ROA and Return on Assets.

$$ROA = \frac{net\ income}{total\ assets} \tag{1}$$

Return on Equity (ROE) measures the percentage return on each currency unit of shareholders' equity. It is the aggregate return to shareholders before dividends. The higher the return the better, as banks can add more to retained earnings and pay more in cash dividends when profits are higher (Rose and Hudgins, 2013).

$$ROE = \frac{net\ income}{equity} \tag{2}$$

Each of the ratios looks as a slightly aspect of profitability. Return on Assets indicates how capable management has been in converting assets into net earnings. Return on Equity is a measure of the rate of return flowing to shareholders. It approximates the net benefit that the stockholders have received from investing their capital in the financial firm (Rose and Hudgins, 2013).

Net interest income (NII) is the difference between interest income and interest expense. It represents the amount by which the interest received from the loan portfolio exceeds the interest paid on deposits or borrowed funds. in interest rate term, it represents the interest spread differential. The net interest margin (NIM) provides a measure of asset productivity. NIM should be higher that 3 %.

$$NIM = \frac{net\ interest\ income}{total\ assets} \tag{3}$$

A good NIM is indicative of good yields on loans, lower cost rates, and effective use of earnings assets and sensible mix of interest-bearing liabilities. Weakness of this indicator is the facts that as banks move toward more fee-generating activities, the NII margin will decline in importance as a measure of asset profitability (Grier, 2012).

2.2 Panel Data Analysis

A panel data set is formulated from a sample that contains N cross-sectional units (in this paper commercial banks) that are observed at different T time periods (Asteriou and Hall, 2011). A simple linear model with one explanatory variable, as given by:

$$Y_{it} = \alpha_i + \beta X_{it} + u_{it}, \tag{4}$$

where the variables Y and X have both *i* and *t* subscripts for $i = 1, 2, \ldots, N$ sections and $t = 1, 2, \ldots, T$ time periods. The coefficient α_i can differ for each bank in the sample.

In the fixed effects method the constant is treated as group (section)-specific. This means that the model allows for different constants for each group (section). The fixed effects estimator is also known as the least squares dummy variable estimator because, to allow for different constant for each group, it includes a dummy variable for each group (Asteriou and Hall, 2011).

2.3 Data and Selection of Variables

The data set used in this paper was obtained from the annual reports of the Czech commercial banks during the period 2004-2014. All the data is reported on an unconsolidated basis. We analyse only commercial banks that are operating as independent legal entities. We use unbalanced panel data from 17 Czech commercial banks (with regard to mergers and acquisitions of banks). Due to some missing observations we have an unbalanced panel of 137 bank-year observations.

We measure the profitability of banks using three common measures of profitability: Return on Assets, Return on Equity and Net Interest Margin. Following Fišerová et al. (2015) or Alkassim (2005) we used Return on Assets, Return on Equity and Net Interest Margin individually as the dependent variable. Thus, we constructed three models with these three dependent variables (ROA, ROE and NIM). As independent variables we selected several factors which can influence the profitability of the Czech banking sector. We distinguish between bank-specific, industry-specific and macroeconomic factors. As bank-specific factors we included bank size, market share, level of capitalization, efficiency, credit risk and liquidity risk, riskiness of the bank's overall portfolio, number of branches of individual bank, bank ownership structure, interest rate and affiliation with financial conglomerate. An industry-specific factor included market concentration and as a macroeconomic factor we chose Gross Domestic Product (GDP).

Bank size is represented by the amount of total assets. The market share is a percent of total assets of individual banks to total assets of the Czech banking sector. The level of capitalization is the ratio of equity to total assets. Efficiency is estimated using the Data

Envelopment Analysis with variable return to scale. More information about the Data Envelopment Analysis and estimation of banking efficiency is described in Stavárek and Řepková (2012). The ratio of total loans to total assets was used as a proxy for credit risk. Liquidity risk is represented by the ratio of total loans to total deposits. Interest rate is measure as a ratio of interest income to total loans. Riskiness of the bank's overall portfolio is computed as a ratio of loans loss provision to total assets. Branches of individual banks is number of total branches of each bank. For measure the market concentration is used the Herfindahl-Hirschmann index. More information about calculation of Herfindahl-Hirschmann index and concentration is presented in Řepková (2013). GDP presents the gross domestic product that is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production per capita in each year. Bank ownership structure is proxy by the market share of foreign-owned banks (% of total assets). An affiliation with financial conglomerate as a dummy variable represents whether the bank belongs to the financial conglomerate. Descriptive statistics of variables is presented in Table 1 and definition of individual variables is described in Table 2.

Table 1: Descriptive Statistics of Variables

Variable	Mean	Median	Maximum	Minimum	St. dev.
ROA	0.69954	0.768	4.1853	-8.4129	1.6406
ROE	7.83059	9.3888	24.935	-34.257	11.115
NIM	0.02517	0.0228	0.0705	0.0006	0.0133
BS	216026	70313	920524	696.4	274892
BR	149.862	53.5	667	1	193.4
CAP	0.12584	0.0915	0.8234	0.02454	0.1148
CR	0.54326	0.5444	0.8819	0.00005	0.1882
EFF	89.0541	100	100	31.5346	17.35
GDP	352706	360444	404843	286979	33742
HHI	1014	989	1112	947	63.722
IR	0.08402	0.0746	0.8853	0.0001	0.0858
LR	0.75576	0.7736	2.1351	0.00045	0.2859
OWNSHIP	88.9209	87	97.1	82	5.5455
MS	0.05323	0.0202	0.2125	0.00017	0.0664
RISKASS	0.01384	0.0045	0.1419	4.1E-06	0.0239

Source: author's compilation

Table 2: Definition of Independent Variables

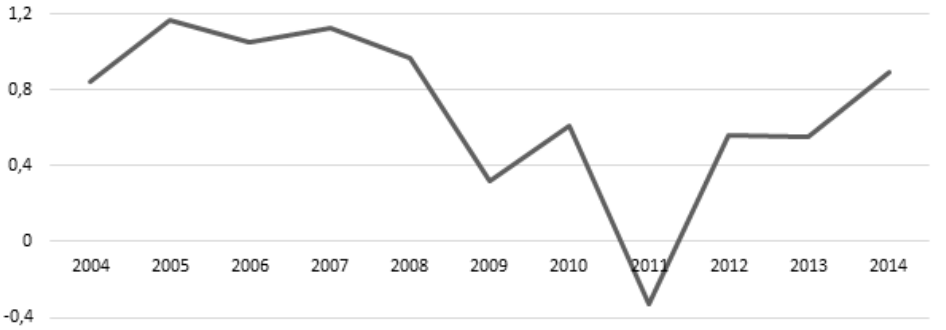
Variable	Definition of variable	Expected effect
BR	Number of branches of individual bank	+
BS	Bank size	+
CAP	Level of capitalization	+
CR	Credit risk	-
EFF	Efficiency	+
GDP	Gross Domestic Product	+
HHI	Market concentration	+
IR	Interest rate on loans	+
LR	Liquidity risk	-
OWNSHIP	Bank ownership structure	+
MS	Market share	+
RISKASS	Riskiness of the bank's overall portfolio	-
FC	Affiliation with financial conglomerate	+
MS	0.05323	0.0202
RISKASS	0.01384	0.0045

Source: author's compilation

3 Empirical Analysis and Results

First, we calculated the profitability of the Czech commercial banks. We measured simultaneously the Return on Assets and Return on Equity.

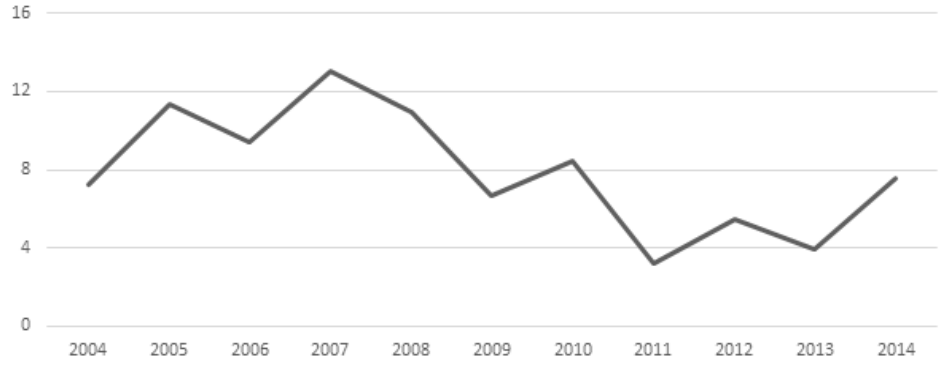
Figure 1: Average Value of ROA of the Czech Banking Sector (in %)



Source: author's calculations

Figure 1 presents results of average value of Return on Assets of the Czech commercial banks within the period 2004-2014. The average ROA reached the value between -0.33 to 1.17 %. The average ROA in the Czech banking sector is weak. Return on Assets should be higher than 1.75 %.

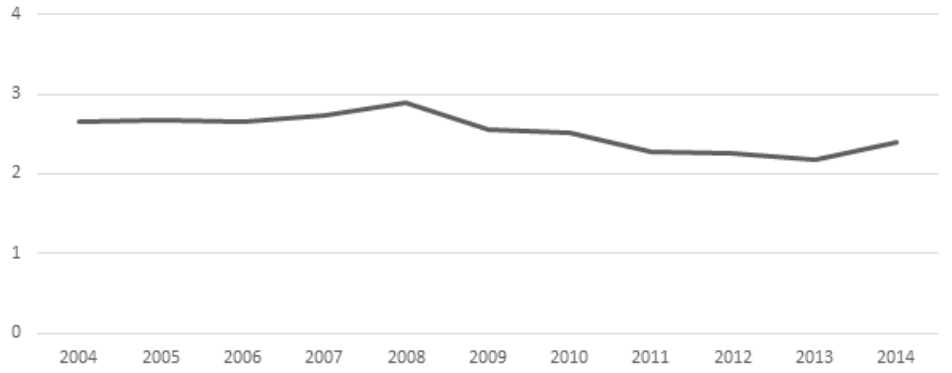
Figure 2: The Average Value of ROE of the Czech Banking Sector (in %)



Source: author's calculations

Figure 2 presents the average value of Return on Equity of the Czech commercial banks during the period 2004-2014. The ROE should be in range between 15 to 20 %. The average values of ROE were in the range of 3.91 to 13.07 % in the Czech banking sector. The ROE was very low in the Czech banking sector.

Figure 3: The Average Value of NIM of the Czech Banking Sector (in %)



Source: author's calculations

Figure 3 represents the average value of Net interest income of the Czech commercial banks during the period 2004-2014. The average value of NIM reached 2.19-2.9 %. It also shows very low profitability of the Czech commercial banks.

Next, we estimated the determinants influencing the profitability of the Czech banking sector. For estimation of the determinants of banking profitability we used the panel data

analysis. We employed econometrics software EViews 9. Before estimating the model it is necessary to test the time series for the stationarity. We used Levin, Lin and Chu test to test the individual variables for the existence of the unit roots. The result of the test indicates that the variables are stationary on the values. So that the null hypothesis of a unit root can be rejected for any of the time series. All times series are stationary and can be used in panel regression analysis. We estimate Equation (4) using Ordinary Least Squares (OLS) method. OLS method has several prerequisites. First, for correction of heteroscedasticity is used White (1980) test. Using this test the heteroscedasticity was rejected and the error term is homoscedastic. For detecting multicollinearity we used correlation coefficient. From the correlation matrix (in Appendix) it is obvious that any variables are not correlated together. We also found normality of the error term, thus the prerequisite that the residual must have normal probability distribution. The absence of autocorrelation of the error term is determined by the Durbin-Watson test. The Durbin-Watson statistic (DW) is used for testing autocorrelation in the residuals and takes the following form:

$$DW = \frac{\sum_{i=2}^{n}(e_i - e_{i-1})^2}{\sum_{i=1}^{n}(e_i)^2}. \quad (6)$$

To allow for heterogeneity across the banks, we use an error-component model, with the bank and market-specific error components estimated as fixed effects. The regression results of Equation (4) where we chose as a depend variable the ROA, then ROE and finally NIM are presented in Table 3 and Table 4. We presented only final estimations with statistical significant variables in individual results. These final models were selected according to the Akaike information criterion. in the final models are not included variables that are not statistically significant impact on dependent variables. For this paper it is not necessary to find the impact of all variables but we examined which variables have statistically significant impact on profitability. These final models were also tested for assumption of OLS methods (residuals were tested for normality distribution, heteroscedasticity and autocorrelation).

Table 3 presents the results of empirical analysis of profitability determinants in the Czech banking sector during the period 2004-2014. From this table is clearly visible that the effect is very similar on each dependent variable. The empirical analysis shows that the effect of number of bank's branches is not uniform. Number of bank's branches has negative impact on ROA and ROE, but this variable has positive impact on Net Interest Margin. The bank size shows the positive impact on profitability. It means that large banks are more profitable than small banks. Capitalization has a positive impact on NIM. Next we found positive impact of credit risk on ROA, we remind that we calculate credit risk as ratio of total loans to total assets. Efficiency positive influences the ROE and NIM in the Czech Republic. Effective banks are more profitable. The level of concentration has also positive impact on ROA. Ownership structure positively influences ROE and market share of bank has a positive impact on ROA and ROE. Banks with higher market share and foreign owner banks are more profitable than others in the Czech banking sector. Impact of other variables on profitability was not statistical significant, thus we are not able to confirm the impact of other variables on banking profitability in the Czech Republic.

Table 3: Estimation Results

Dependent variable						
	ROA		ROE		NIM	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
Constant	-6.571034a	-2.930444	-42.122300a	-2.787086	0.000419	0.103545
BR	-0.012328b	-2.463202	-0.114976a	-3.771149	0.000032c	1.759930
BS	0.000004b	2.279409	0.000032a	2.660728	0.000000a	-2.915147
CAP					0.028852a	5.365552
CR	3.353560 a	3.402296			0.015657a	3.301611
EFF			0.184369a	3.441205	0.000144a	3.664508
GDP						
HHI	0.004352b	2.437246				
IR						
LR						
OWNSHIP			0.296679a	2.076558		
MS	33.660010b	2.552457	304.257800b	3.804407		
RISKASS						
FC						
Estimation diagnostics						
Number of observation	137		137		137	
Adjusted R-squared	0.648661		0.704041		0.698759	
F-statistic	12.95667		16.40586		58.91445	
Prob (F-statistic)	0		0		0	
DW statistics	1.853602		1.995868		1.936947	

Note: a denotes significance at 1 % level, b denotes significance at 5 % level, c denotes significance at 10 % level
Source: author's calculation

Table 4 summarizes the effect of individual variable on the banking profitability. We can assume that negative impact of number of bank's branches on ROE and ROE is caused the fact that the operations of branches decreased revenue of banks. Banks size is positive related to profitability. This result is in line with the conclusion of e.g. Smirlock (1985), Kosmidou et al. (2008), Stavárek and Polouček (2004), Eichengreen and Gibson (2001). Also Sufian and Habibullah (2009) found that size has positive impact on ROA and NIM.

Table 4: Effect of Individual Determinant on Dependent Variables

Variable	ROA	ROE	NIM
BR	-	-	+
BS	+	+	+
CAP	0	0	+
CR	+	0	+
EFF	0	+	+
GDP	0	0	0
HHI	+	0	0
IR	0	0	0
LR	0	0	0
OWNSHIP	0	+	0
MS	+	+	0
RISKASS	0	0	0
FC	0	0	0
MS	0.05323	0.0202	0.2125
RISKASS	0.01384	0.0045	0.1419
FC	0	0	0

Source: author's calculation

The findings that capitalization has a positive impact on NIM is confirmed in the studies of Ben Naceur and Omran (2008), Sufian and Chong (2008) or Kosmidou (2008). Our result that credit risk has positive impact on ROA and NIM confirm the findings of Sufian and Habibullah (2009) Ben Naceur and Omran (2008) who found that credit risk has positive impact on bank performance. We found the positive impact of efficiency on ROE and NIM. We estimated the positive impact of efficiency on profitability. But on the other hand, Kosmidou et al. (2008), Kosmidou (2008) and Pasiouras et al. (2006) found the efficiency negative influence profitability. the results of panel data analysis show that the impact of GDP on profitability was not confirm but in empirical literature most of studies e.g. Ben Naceur and Goaied (2008), Ben Naceur and Omran (2008) Shehzad et al. (2013), Sufian and Habibullah (2009) or Kanwal and Nadeem (2013) estimated that GDP had not impact on banks' profitability, on contrary, Sufian (2011) and Davydenko (2011) examined the negative impact of GDP on ROA. on the other hand, Kosmidou (2008) found the positive impact of GDP on bank profitability.

This paper do not confirm the result of empirical studies that found a positive (e.g. Kosmidou et al., 2008 or Bourke, 1989) or negative (Kosmidou, 2008; Pasiouras et al., 2006 or Guru et al., 1999) because we do not confirm the impact of liquidity risk on performance of banks. We found that ownership structure has a positive impact on ROE, but we do not found the impact of this factor on ROA and NIM. Also Bourke (1989) and Molyneux and Thornton (1992) stated that ownership is irrelevant determinant of profitability. The riskiness of overbank's portfolio and affiliation with financial conglomerate were not statisti-

cal significant variables influencing the banking profitability in the Czech banking sector during analysed period.

Conclusions

The aim of the paper was to estimate the banking profitability determinants of the Czech commercial banks during the period 2004-2014. First we calculate the profitability ratios, namely Return on Assets, Return on Equity and Net Interest Margin. We found that average values of ROA were in range -0.33 to 1.17 %. The average ROE were reached the value of 3.91-13.07 % and the average net interest income was 2.19-2.9 %. The level of average profitability of the Czech banking sector was very low. The highest level of profitability reached the largest banks.

We estimated the impact of bank size, market share, level of capitalization, efficiency, credit risk and liquidity risk, interest rate, riskiness of the bank's overall portfolio, number of branches of individual bank, market concentration, bank ownership structure, Gross Domestic Product and affiliation with financial conglomerate on banking profitability. We estimated three models where we chose Return on Assets, Return on Equity and Net Interest Income as dependent variables.

When we summarize the results of analysis, profitability was positively influenced by the bank's size. Number of branches of the bank had the negative impact on ROA and ROE. Number of bank's branches and capitalization has a positive impact on NIM. The results show the positive impact of credit risk and level of concentration on ROA. Then we found that efficiency positive influenced ROE and NIM. Ownership structure positive influences ROE and market share of bank has a positive impact on ROA and ROE. Concentration of banking sector had a positive impact on ROA. We found that GDP, interest rate, liquidity risk, riskiness of bank's portfolio have not the statistically significant influence on profitability of the Czech commercial banks. Also affiliation bank with the financial conglomerate was not statistical significant impact on banking profitability in the Czech Republic.

We can conclude that large, well-capitalized and foreign owners' banks are more profitable. Also efficient banks with higher market share are more profitable than other banks in the Czech banking industry. The highest impact on profitability (namely on ROA and ROE) had market share. It means that if market share of bank increase, the profitability of bank increase too. But only marginal change in market share significantly influenced the banking profitability. It was also found that especially bank-specific factors determined the profitability of the Czech commercial banks.

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Appendix

Correlation matrix of independent variabless

	BR	BS	CAP	CR	EFF	GDP	HHI	IR	LR	OWN	MS	RISK
BR	1	0.78	-0.10	-0.14	0.20	0.09	-0.10	0.18	-0.11	-0.09	0.80	0.07
BS	0.78	1	-0.20	-0.30	0.10	0.21	-0.19	0.15	-0.23	-0.20	0.80	-0.03
CAP	-0.10	-0.20	1	0.03	0.23	-0.08	0.07	0.17	0.29	0.08	-0.23	0.27
CR	-0.14	-0.30	0.03	1	0.39	0.21	-0.19	-0.15	0.78	-0.15	-0.36	0.21
EFF	0.20	0.10	0.23	0.39	1	0.20	-0.18	0.08	0.46	-0.16	0.08	0.16
GDP	0.09	0.21	-0.08	0.21	0.20	1	-0.75	0.10	0.24	-0.76	0.04	0.21
HHI	-0.10	-0.19	0.07	-0.19	-0.18	-0.75	1	-0.03	-0.22	0.77	-0.05	-0.31
IR	0.18	0.15	0.17	-0.15	0.08	0.10	-0.03	1	-0.10	-0.04	0.14	0.04
LR	-0.11	-0.23	0.29	0.78	0.46	0.24	-0.22	-0.10	1	-0.19	-0.28	0.25
OWN	-0.09	-0.20	0.08	-0.15	-0.16	-0.76	0.77	-0.04	-0.19	1	-0.04	-0.38
MS	0.80	0.80	-0.23	-0.36	0.08	0.04	-0.05	0.14	-0.28	-0.04	1	-0.09
RISK	0.07	-0.03	0.27	0.21	0.16	0.21	-0.31	0.04	0.25	-0.38	-0.09	1

Source: author's calculation

Czech Pension Reform – Still at the Beginning
Česká penzijní reforma – stále na začátku

STANISLAV KLAZAR

Vostatek, J.: Penzijní teorie a politika (Pension Theory and Policy). Prague: C. H. Beck, 2016. 288 pp.

What can be said about the pension reform in the Czech Republic? We are again (and again) at the beginning. There is a flagrant example - the biggest attempt to reform our system – introduction of the second pillar (fully funded defined contribution system) – has been followed by political critics and finally abolished.

We need something we can use for studying, analysing and finally improving our pension system. The new book of professor Vostatek (2016) covers all these fields of interests and I believe the attentive reading of this book is the appropriate way how to restart our pension reform attempts.

Retirement pensions represent the largest social program in the OECD countries and in the EU, measured by the volume of finances expended. They form the largest part of public spending. Demographic trends (aging population, increasing life expectancy in many countries, the decline in fertility etc.) may predict their further growth in the future.

Now reviewed publication is a very worthy summary of Vostatek´s many years of work in this area. The monography follows on from his previous publications. In the publication Vostatek (1996), the author addressed the wider field of the social and private insurance, the publication Vostatek (1981) discussed the area of insurance theory and policy.

The new publication provides an analysis of pension systems in selected countries, based on the 4 basic social models and 5 basic provision models. More attention is paid to modern products contained in the individual pension pillars, because there have been significant developmental transformations that affected pension schemes and models as a whole. There is also the issue of pension tax regimes and detailed analysis of the Czech pension system. In conclusion, suggestions and recommendations, whose implementation would enable the sustainability of the pension systems in the future, are summarised.

The publication is intended not only to experts - economists, but also politicians and all actors in public policy with a focus on the pension theory and policy. Finally, it can be recommended to university students in economics to study the pension, social and tax issues. Students of all kinds of economic public/private universities will surely benefit from the text that represents a really deep insight into the entire pension theory and policy. For example students of the University of Economics in Prague, those attending the core courses covering social security systems and narrowly pension system, are supposed to use this text book as one of the basic sources covering this field of study.

The book consists of the four core chapters. Two first chapters cover the field of social (1) and provision (2) models of pension insurance and savings. The following chapter covers the taxation of pension benefits (3). The book concludes the chapter focusing on the Czech pension system (4), its reform attempts from the past and the climax of text is a set of the recommendation for the future.

The Typology of Pension Models

The first half of the text is dedicated to the typology of pension models. Author stresses that without the proper typology it is not possible to understand to the pension schemes. At the beginning, there is a public choice, so pension system is always "res publica". Public choice determines the basic pension scheme concepts but the efficient decision must be based on the proper understanding to the typology of pension models. **The most important message of the text is that the mix of different models is not always the best choice and the author delivers sufficient number of evidence for this statement.**

Author´s typology of social models is based on the two dimensional matrix – one dimension is the level of coverage (selective vs universal) and the second one is the way of participation in the system (compulsory vs optional).

The presentation starts with the most simple pension model, so called "Liberal Social Model", which is free of any significant government interventions. Pension security is viewed as the personal problem of every citizen (participant, resident) so any public pensions are not actually needed. This model promotes occupational pensions and of course personal pensions. Under this model, only general means-tested financial benefits are acceptable for residents incapacitated for work, or there are some benefits in kind (food, accommodation or other services). Theoretically benefits are financed by the taxes. There is no need for special kind of contributions to the pension system. Author correctly concludes that this model is only hypothetical and does not exist in any OECD country.

For more practically oriented branch of this approach the author uses the term "Modern Liberal Model", which already recognizes special means-tested old-age pensions and can be partly identified for example in Australia, New Zealand, United Kingdom, United States and also in the Czech Republic, with the earnings-related public pensions with prevailing solidarity principle. This model is highly associated with the British economists William Henry Beveridge (born in 1876 in British India, now Bangladesh). So called Beveridge Report proposed that "all people of working age should pay a weekly national insurance contribution. In return, benefits would be paid to people who were sick, unemployed, retired or widowed". Beveridge argued that **this system would provide a minimum standard of living "below which no one should be allowed to fall"** which is in the heard of liberal social model approach.

As a second the "Conservative Social Model" is described. The basic characteristic of this model is segmentation, so that it works with the wide range of models for individual groups and with the wide range of funding methods too. The first social group, which received privilege old-age security, included civil servants, but later, associated with the German Chancellor Bismarck and the so called Blue-Collar Pension Insurance Act (1891),

the other social groups were added to the system. Bismarckian pension systems are used for example in Austria, Finland, Germany, but author concludes that also Czech Republic exhibit some characteristics of this model.

As the third model is chosen and described "Social-democratic Social Model", which is characterized by the dominance of the universal benefits. This approach utilizes the universal pensions with higher pension level in relation to the average wage or median income. The modern application of this model focuses on the middle class. A Swedish pension system is named as an example. It seems that Sweden is now considered to be the leader in the application of the modern and successful pension system. The Swedish pension reform (1999) significantly modernized this kind of model by implementing an NDC system (notional defined contribution system). Author suggests that this is the one of the way to the future effective pension system.

Chapter concludes by the description of the "Neoliberal Social Model", which relies on the fact that the private sector is more efficient than the public sector so the private sector "should provide anything it can".

The text of the monography allows me to conclude that the author reluctantly began to feel the need to comment on the current trends in the pension practice in our country. He decided to (1) summarize theoretical foundations and then (2) deduce the practical potential solutions which are consistent with the theory. **The author concludes that "...there is no perfect pension system that would suit everyone..." and that "the choice between these social models is a public option in terms of modern public policy. Ideally, each pension system should be based on one of those social pension models."** It is therefore concluded by the author that "the mixed system" is not appropriate. Lawmakers should be aware of it.

The Provision Models

The author also emphasizes the "management efficiency" of the system, to which I believe there is still not given enough attention. This can be considered as one of the main reasons for the failure of the second pillar in our country. The author is not just a theorist, but also went through practice, so it is clear that his comments regarding the distribution of insurance products are extremely insightful and accurate. One can only agree that the fees system play a significant role.

Second chapter of the book focuses on the different kinds of the provision models, defined as "Public Pension Provision Model, Life Insurance Provision Model, Occupational Pension Provision Model, Mandatory and Voluntary Private Savings Provision Model". Author for example argues that the standard life insurance provision model fulfils all insurance needs of participants but practical applications seems to be associated with major problems in the form of market failures. This is most apparent in annuity markets that are marginal in a number of countries. Author stresses that distribution networks represent a major barrier to entry into the life insurance market of a country so if the government supports heavily life insurance products, they become mainly a rent-seeking instrument. On the other side author sees the positive role of the government regulation in the form of ban on commissions provided by the life insurance companies.

Significant attention is paid to the occupational pensions which are used in most western countries and help to strengthen the positive relationship between employer and employee. Other positive characteristic of this model is relatively low level of provision costs due to higher collective bargaining power of the employer in comparison to employee.

Mandatory and Voluntary Private Savings Provision Model concludes this chapter. The pros and cons of matching contribution, opt-out, auto enrolment and government support are critically discussed and analysed with the support of modern findings of the behavioural economy.

Author´s fundamental message is as follows. In the case of private pension systems, there are still ways how to reduce the costs to the minimum (there is a nice discussion of so called Swedish "blind accounts") and as a result we can reach almost riskless increase of the effectiveness of the system. But the "big Czech pension reform" missed completely this goal. We were not able to simply "follow the recommendation for achievement of economies of scale and competition simultaneously through: (1) single basic service provider; (2) blind accounts/blind quotation system; (3) several asset managers; and finally (4) system of fee rebates. It is sad but true (Schwarz, 2014).

Taxation Method Applicable for Pension System

Chapter three covers the taxation methods applicable for pension system where tax base can be divided into benefits, returns and contributions. The tax treatment of pensions from pension system (especially the funded ones) is a critical choice in the pension reform. **It is clearly stated in the book that a generous tax treatment can promote pension saving but only due to the higher public deficit, c. p.**

The political problem can also arise from the distributional consequences if higher income individuals are better able to take advantage of tax reliefs. Distribution impact based on legislation vs the actual incidence is also partly discussed in this chapter following the theoretical foundation from Musgrave (1994) and Meade (1988).

In the first part of this chapter author summarizes the taxation all over the Europe using the pension tax quote and the indicator for gross public (private) social expenditure. Author discusses the importance of the social expenditure as a factor which decreases the global inequality in the society. **The important message from his analysis is that the higher level of social expenditure does not necessary produce the higher decrease of the income inequality.** This statement is consistent with the recent results of the number of empirical studies; see for example Roženský (2014).

In the second part of the chapter author points out that there are three basic moments where the saving in a funded pension can be taxed, first is in time when employers or employees contribute, second one is in the time when the investment income and gains accrue and finally the third one is in the time when benefits are paid out. Author explains the classical typology of the tax regimes based on the tax treatment of 1) contribution (abbreviation Exx if exempted or Txx if taxed), 2) fund income (abbreviation xEx if exempted or xTx if taxed) and finally 3) pension (abbreviation xxE if exempted or xxT if taxed). Author

is also concerned with the public budgets and the attentive reader can easily see that the differences are in the timing of taxation, where under the EET – so called the 'classical expenditure tax' – public revenues are deferred until retirement, while under TEE – so called the 'pre-paid expenditure tax' – they are received immediately.

Czech Pension System and Its (Possible) Reforms

The author of the text not only describes the system and points out the critical places, but goes further and attempts to propose his own solutions. The fourth chapter can be seen as the climax of the long time and almost lifelong author's interest in this field of study. I believe that very interesting, motivating and inspiring is for example recommendation to use the senior housing allowance as reinforcement of pension system.

Text is also engaged in consideration of the parental care in the design of the pension systems and discussion (criticism) of the complementary (supplementary) pillars of the Czech system, but in my opinion the most important author´s message is that **"the entire Czech political spectrum would need to increase financial literacy in the field of social insurance and related taxation. In many other countries there are distortions of the tax and pension system, but the situation here is extreme in this regard".** Author is also critical / sceptical to the privatisation of public pensions and he is consistent in this area for a long time.

Subject of the overwhelming criticism is the supplementary pension insurance and almost all other similar financial products (author focuses on the different private life insurance products and also on bauspar savings). **To sum up it seems everything is broken in the private pension schemes in our country. Author shows that the Czech Republic bears the highest "operating" costs (1.4 % of the gross assets vs 1.3 % in Spain but also 0.1 % in Denmark, 0.5 % in the Slovak Republic and 0.4 % in Poland) and also highest fiscal costs in the world.**

Very high fiscal costs stems from the abundant support through direct and indirect channels. High penetration of the "supplementary pension insurance" is based on the extreme fiscal subsidization, and of cause fiscal illusion of the ordinary people. There is a direct channel of the state support – direct subsidy as a nonlinear function of the participants' contributions, but also indirect subsidy due to the tax deductibility of participants' contributions from the tax base. It must be clearly said that subsidy is financed by the taxes paid by the taxpayers. Author also proves that the government support of the "life insurance" in the Czech Republic is mainly a rent-seeking instrument. Retail "pension funds" are described as gold eggs for several financial groups.

We must agree that "the Czech system of parallel existence of supplementary pension insurance, supplementary pension savings, private life insurance, and bauspar savings is a chaotic and non-transparent soft compulsion system that enables substantial rent-seeking by the financial sector." The winners are not the state or citizens, but financial sector. The future reform attempts must solve this and try to increase the efficiency of the system for future pensioners.

Final Words

The conclusion of the whole book is "sad but true" - It is true that individual pillars of the Czech pension system have recently undergone a number of reforms, but the problem is that many of them usually resulted in no improvement in their efficiency. The discussion covered by this book clearly shows that all pension pillars in our country need to be reformed, but the reform must be appropriately prepared and the reform attempts must have the final support across the whole population/political representation. And there are also some good examples to follow – the book is full of them.

I recommend the book to the readers who are keen on the deep insight into the pension theory and policy. Author is publicly recognized as a guru of (not only) pension theory who based his research on the critical review of the data and all of his statements and recommendations are based on scientific research. Furthermore his opinions are time-proved and long-term consistent.

It is obvious that the text is based on the extensive original research of the author, as evidenced by the venerable extensive bibliography. **This publication is extremely necessary right now. The proposals contained in this book should reach the ears of lawmakers, advisory groups and ultimately every voter. Only after that, we can start the new, the better reform of the pension system in our country.**

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