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### ECONOMIC SUSTAINABILITY AS A FUTURE PHENOMENON: MOVING TOWARDS A SUSTAINABLE HOTEL INDUSTRY

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**Abstract:** The issue of sustainability is frequently discussed in relation to the tourism industry. This is as a consequence of the rapidly increasing demands of tourists and the fact that tourism is perceived as one of the driving forces behind economic growth in some destinations. This can lead to both positive and negative future impacts. The emergence and growing economic impact of tourism means that it is essential to devote research into the implementation of sustainability issues and measurement indicators with regards to future economic prosperity. Historically, one of the first needs of a tourist was the need for shelter against the elements. Nowadays, the understanding of what accommodation is has been extended to include comfort and relaxation. The pressure on the accommodation sector to apply sustainability measures in practice in order to adapt to changing demands and to protect its economic prosperity, is enormous. The aim of this study is to determine the relationship between the main economic sustainability indicators, gross domestic product, and the internal consumption of tourists in accommodation facilities. The hypothesis that a mutual relationship exists in the Czech Republic between gross domestic and the contribution of domestic and inbound tourism expenditure on accommodation, is tested through a correlation analysis. The results of this analysis were used to determine how urgent the need is to implement sustainability measures within the Czech accommodation sector and within the hotel industry.

**Key words:** accommodation, Czech Republic, economic sustainability, environmental sustainability, Gross Domestic Product, hotel industry, tourism

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**JEL Classification:** L83, Q01

## 1. Introduction

From an historical perspective tourism began in the 13<sup>th</sup> century with merchants and pilgrims, it has since grown to become a global phenomenon. Whilst travelling, the need for food and shelter was immediately apparent. In those times, accommodation only took the form of simple shelters and inns (Křížek and Neufus, 2014). It was only in the 19<sup>th</sup> century that the first type of hotel as we know it today opened its doors and started offering quality services. The expansion of tourism brought with it the need for facilities and amenities that would make travelling more pleasant and easier. Lockyer gives historical examples of what some of the crucial changes in the hotel industry have been, including keyless locks (1970s), colour television (1970s), in-room guest check-out (1980s), internet reservations (1990s) or guest room shopping (1990s) (Lockyer, 2007). Today, all of the aforementioned services are considered to be valuable and essential key elements for ensuring the success of the hotel industry. In recent times, information technology, and in particular the advent of the internet, has

resulted in an enormous increase in the range of accommodation available and bookings (Rheams, n.d.). However, in order to operate over the long-term, hotels and their management need to do more. The hotel industry, more than any other industry, is dependent on decision-making and strategic thinking (Moldan et al., 2002). The perception of who a guest is and why they use hotel services is changing. While guests in the 14<sup>th</sup> century sought accommodation for mainly practical reasons such as sleeping or protection against bad weather, modern guests in the 21<sup>st</sup> century are more demanding and are looking for comfort and relaxation. Hotel managements must therefore react accordingly and adapt to the changing preferences of their guests and at least follow consumer trends in order to stay ahead of the competition. Effective hotel management has therefore become an integral part of tourist satisfaction. It took almost eight centuries for the hotel business to transform itself and meet the needs of its clients in this way. However, the future prosperity of the hotel industry will depend on the application of new techniques and trends. Today, financial performance and protection of the environment have become mainstream issues where it concerns discussions about the sustainability of the hotel industry. Economic sustainability is a key term with regards to the future economic prosperity of the hotel industry. This includes areas such as overall cost reductions, improvements in key financial indicators and customer satisfaction as means by which to guarantee a client's return. According to Tvaronavičienė and Lankauskienė (2011), economic development is characterised as “the increase of a country's residents' standards of living with long term growth from a simple, low-income economy to a modern, high-income economy”. The literature review in the first part of this article lays the ground for the implementation of sustainability in the hotel industry. The second part of this article involves statistical research based on data from the Czech Statistical Office and Tourism Satellite Account. The outcomes, in the form of the need for sustainability in the Czech hotel industry, and their connection to economic performance, will serve as the basis for outlining future opportunities for hotels in the Czech Republic and their application in practice.

## 2. The need for sustainability in the hotel industry

The growth of the tourism industry has created enormous pressure on hotels to adapt to meet the growing interest in making hotels sustainable for future generations and future economic prosperity. In recent years, great emphasis has therefore been placed on generating awareness about sustainability issues. Sustainability was defined for the first time by the United Nations at a meeting held in Brundland in 1987. In a paper entitled *Our Common Future*, it defines sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundland, 1987, p.41). This definition laid the foundations for the issue of sustainability. Nowadays, Jayawardena (2013) claims that the concept of sustainability is becoming a standard rather than a new phenomenon. Jauhari (2014) adds that sustainability is “no longer a necessity but a critical factor”, especially with regards to the need to look at new green practices and strategies. Sustainability requires a growing interest from business units and their stakeholders. The growth in interest in sustainability has been proven in a study carried out by the MIT, whereby 70% of companies stated that they had practiced sustainability for the past six years, and 20% in the last two years. Furthermore, two-thirds of respondents stated that sustainability was an inevitable component of a company's competitiveness (MIT, 2012)

The reasons for the need for a sustainability strategy in the hotel industry vary widely. Firstly, all forms of accommodation combined represent the largest economic sector within the tourism industry, larger than transportation, food and beverage, travel agencies and tour operators (Sloan et al., 2013). Secondly, its negative impact on the environment is the highest for all commercial buildings (Sloan et al., 2013). To prove this, Sloan (et al., 2013) explores the portfolio of InterContinental Hotels and a survey it carried out in 2007 into its carbon footprint. To give an idea of how much the hotel industry consumes and what its impact on the environment is, a summary from the Hilton Worldwide's report on its sustainability mission is given below (Hilton Worldwide, n.d.):

- average guestroom 750 watts of lighting (after sustainability process only 220 watts);
- 182.1 gallons of water per occupied room in 2014;
- saving enough energy to power 81,400 homes for a year (2008 as base year);
- reduction in carbon footprint comparable to taking 122,645 cars off the road (2008 as base year);
- waste reduced by 27.6% from 2009 (2008 as base year).

These facts also reveal that sustainability within the hotel industry and its future prosperity must be dealt with both in terms of economics and the environment. This is due to the fact that financial performance is also a key element for a hotel to be continuously prosperous in terms of “continuous demand and minimal costs for survival” (Bader, 2005). In contrast to the tourism industry in general, the hotel industry is only interested in those tourists who stay overnight and use some form of accommodation. The efforts of managers and stakeholders are therefore focused on ensuring that guests are satisfied and return, on preventing undesirable issues whilst accommodating tourists, and on profitability.

### **3. The relationship between economic and environmental sustainability**

At first glance, environmental and economic sustainability would seem to be competitive. However, its interconnectedness can bring positive added value to managers and stakeholders alike. Within the hotel sphere, authors such as Wang (2014) and Álvarez, et al. (2001) applied this positive relationship between environmental sustainability and financial performance for a short period of time. However, economic and environmental sustainability issues are also interconnected over the long-term as “economic growth always brings risk of environmental damage, as it puts increased pressure on environmental resources” (Brundtland, 1987). The mutual interaction between the two is strongly perceived within the hotel industry. Some sustainability initiatives and improvements do not require large investments (Don Shindle, n.d.), but require great efforts by management and stakeholders to nurture green behaviour. This behaviour can save energy, water and waste with relatively small levels of investment. Peršić-Živadinov (2009, p.11) contradict this by stating that the integration of sustainability into hotel practice is “a solid financial and environmental investment”. Although environmental sustainability leads to economic savings, businesses suffer from balancing two opposite views, good corporate ethics and business profitability (Wang, 2014). According to Peršić-Živadinov (2009), a sustainable hotel financially requires at least 10% more investment than a classic hotel without any sustainability initiatives. However, they claim that those hotels that implement sustainability investments can recoup their costs within five to ten years on energy savings alone (Peršić-Živadinov, 2009). All this is dependent on the level of commitment of managers and stakeholders alike to the application of sustainability issues.

Understandably, and on the basis of previous claims, the economic sustainability issue is strongly perceived as being “in the wider context of environmental or social sustainability”, but has its own parameters (Doane and MacGillvray, 2001). Economic sustainability is generally focused on financial performance, optimal usage of resources and the successful long-term running of the business with profitable results. However, Doane and MacGillvray (2001) strongly argue that economic sustainability must also influence and manage two other pillars, social and environmental sustainability. The positive relationship between environmental and economic sustainability should be seen as a benefit because the integration of sustainability into hotel businesses brings guaranteed added-value to both hotel stakeholders and customers. There can also be a positive impact on costs when implementing environmental sustainability measures.

Within the hotel industry, standard practices with regards to environmental and economically sustainable behaviour can be demonstrated through various successful examples. The majority of major hotel chains largely base their sustainability principles on reducing their impact on the environment in combination with an economic impact. By integrating sustainability into their hotel policies, big hotel chains have created what traveller’s perceive to be a global standard. In this regard, Hilton Worldwide is often seen as a pioneer within the hotel industry in the practical application of sustainability. Hilton Worldwide, one of the biggest hotel chains in the world, contributed to a revolution in the hotel industry by being the first to introduce a sustainability programme (Gunther, 2012). Hilton Worldwide (2016) committed itself to the reduction of energy, CO<sub>2</sub>, waste and water consumption over a long-term period of 5 years (2009-2014). Marriott International also adopted a sustainability policy as a method for maintaining standards associated with “green hotels”. Marriott (2016) primarily implemented environmental sustainability measures such as “recycled key cards and pens, low-energy light bulbs, showerheads that use less water” and many others to endorse their sustainability efforts. An example of best practice is their programme for Leadership in Energy and Environmental Design (LEED) which can save their owners 25% in water and energy consumption (Marriott, 2016). Other hotel chains such as Shangri la

Hotels and Resorts (Sloan et al., 2013), InterContinental Hotels Group and Wyndham Worldwide Corporation (Leslie, 2012), have followed suit and have also included sustainability into their programmes. Understandably, the programmes of these hotel chains generate awareness of the importance of sustainability and encourage the implementation of such strategies by other forms of accommodation too. The InterContinental Berlin proves that a positive relationship between economic and environmental sustainability exists. The hotel has reduced its CO<sub>2</sub> emissions by 2,025 tonnes per year, saved 1,600,000 kWh energy per year which is comparable to €267,500 (InterContinental Hotels Group, 2016a). Similar reductions were also made in water consumption at the Holiday Inn Diamond Bar from February 2015 onwards. Water consumption fell by 1.4 million gallons, which is equivalent to \$2,000 in associated water costs (InterContinental Hotels Group, 2016a).

Even though the hotel industry, in terms of preserving sustainability, does not burden the environment as much as for instance air transport, the sustainable development of a hotel and its cost efficiency is taken as a measure of its competitiveness in today's hotel business. Given the fact that the aforementioned authors have proven the positive relationship between environmental sustainability and economic costs, the providers of hotels must concentrate on transforming concrete sustainability issues into practice.

### **3. Measurability of economic sustainability in the hotel industry**

The monitoring of sustainability can help to compare the hotel industry with that of competing sectors in terms of sustainability, guide management with regards to further development and initiate discussions with stakeholders to create a better sustainable economic situation (Jurigová and Lencséssová, 2015). The vague and normative (Moldan, 2003) nature of sustainability forces researchers to find ways to measure it on the basis of concrete results. Another reason for the need to measure sustainability is that its vague and intangible character limits its usage by management to make decisions impossible. As is stated in the document entitled *Our Common Future*, each nation "will have to work out its own concrete policy implications" because "economic and social systems and ecological conditions differ widely among countries" (Brundtland, 1987). The report goes on to say that if a business unit becomes economically unsustainable it will lead "to increase (d) vulnerability to crises" (Brundtland, 1987, pp.49). Throughout literature, the most frequently used economic measure for assessing sustainability is that of gross domestic product (GDP). It is used by authors such as Daly (1996) and Lawn (2006), and in publications such as the *Division for Sustainable Development* (2001). However, some authors do not perceive GDP to be a reliable tool for this purpose (Nováček, 2010; Bossel, 1999). This is due to the fact that GDP growth only takes into account economic factors and does not reflect non-economic factors that also contribute to well-being. This is best explained with an example. Tučková, Fialová and Strouhal (2012) state that this indicator has several implications with regards to, for example, economic cost: the amount of money spent on the health service / GDP \* 100%, reflects both domestic price levels and demographic structures. Where investment in carbon energy solutions may be essential for the environment and long term sustainability, it may not be the preferred policy option with regards to economic growth as measured by GDP (Tuček, Tučková, 2010). GDP is therefore an inadequate measure with which to measure the sustainability of production and consumption (Joaquín, 2009).

Interestingly, GDP is not typically used to measure the economic sustainability of hotels. New indicators and measures have been adopted by the hotel industry to create stability. In order to endorse the impact of the economic dimension of sustainability, Jones et al. (2014) note the importance of economic issues such as employment opportunities, increases in shareholder value and capital development. Similarly, the World Tourism Organisation (2004) issued economic indicators for the tourism industry as a whole which include: the change in average price per room; the % of return visitors; the % of services and accommodation open all year round; the number of rooms with air conditioning and/or heating; the revenue from accommodation type per year; etc. A few years later, the European Union (2013) followed suit by issuing economic indicators that mirror sustainability. These indicators include many that measure the economic performance of hotel businesses and include: the number of tourists nights per month; daily spend per tourist; average length of stay of tourists and visitors; average room price in a given destination; percentage of jobs in tourism that are seasonal; the number of employees directly employed within the tourism industry; and others.

Even though economic and environmental sustainability are powerful intangible means by which to generate growth and prosperity, current management systems in general often fail to apply economic sustainability in practice (Doane and MacGillivray, 2001). This is confirmed by Jones et al. (2014) who claim that the majority of studies of, and best practices in, hotels concentrate on environmental sustainability. The attention of managers, especially in the hotel industry, as has been proven through the literature review, is mainly focused on reducing their impact on the environment. The economic sustainability of hotels should therefore be looked at more intensely, particularly with regards to its potential for improving future economic performance.

#### 4. Methodology

A recent study published by Ernst & Young (2013) proved the importance of the hospitality sector. The study states that accommodation and food and beverages are major contributors to the European economy and claims that hospitality is a key driving force behind the economy. This study focuses on the hotel industry in the Czech Republic and applies data based on statistics from the Czech Statistical Office and Tourism Satellite Account. According to CZ NACE (Czech General Industrial Classification of Economic Activities within the European Community) tourism consists of four economic activities, namely: transport; hotels and restaurants; storage and communication; travel agencies and tour operators (Eurostat, 2008, Czech Statistical Office, 2015a). Although it is possible to analyse sustainability across all four of these economic activities, the hotel industry lends itself particularly well to it due to its unique ability to change quickly and effectively to sustainability issues. According to the CZ NACE classification, the hotel industry falls within category I "Accommodation and food service activities" (CZ NACE, 2016). This category includes accommodation for customers for a short period of time, as well as long-term time-limited accommodation excluding long-term accommodation in the form of rental flats. The Tourism Satellite Account offers additional important data for this analysis regarding internal tourism and the utilization of accommodation facilities in the Czech Republic. It is summed up by the expenditures spent by non-residents in the Czech Republic (inbound) and the expenditures of residents spent on internal (domestic) travel (Czech Statistical Office, 2015b). The contribution of internal tourism to the accommodation sector was subjected to further statistical analysis to establish the statistical importance between the set variables.

##### *The aim of the research*

The aim of this research was to prove the statistical importance between general gross domestic product and internal tourism (domestic and inbound) expenditure on accommodation in the Czech Republic. The main focus was to prove the existence of a mutual relationship between the two variables in order to support or refute the research hypothesis as stated below:

It is assumed that a mutual relationship exists between GDP and internal tourism (inbound and domestic tourism) expenditure on accommodation.

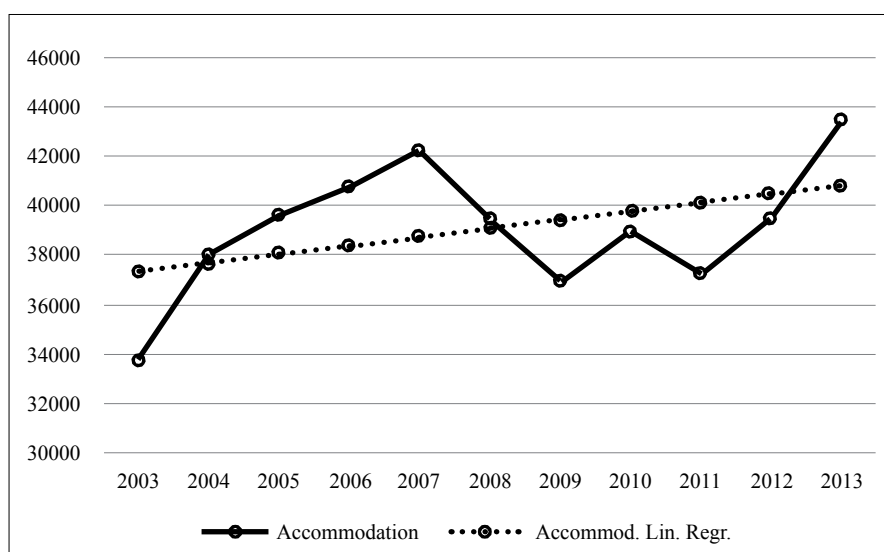
##### *Statistical tools used*

To determine the relationship between the selected indicators regression and correlation analyses can be used, or econometric models. As only the two main characteristics are to be compared, the first tool is more suitable for this situation. The correlation itself does not imply that there is a causal relationship between the variables, but it can refer to the linear relationship between them. According to the observed data, the Pearson correlation coefficient can be used. However, the data should be examined visually to determine the possible linear/non-linear dependence, as is the case for the regression analysis (Bluman, 1997). The Pearson product moment correlation coefficient varies between -1 (strong negative association) and +1 (strong positive association). Scatterplots are a widely used tool for proving whether a linear relationship exists. Where there is a significant correlation coefficient, the linear relationship can be determined by the regression line. In a simple linear regression analysis the formula describing the relationship between the variables is the estimation of the linear equation  $y = ax + b$ , where  $y$  represents the dependent variable (predicted value),  $x$  the independent variable, and  $a$  and  $b$  the parameters of the model (slope and intercept). For the estimation of the parameters of the model

the Least Square Method (LSM) is usually used (Draper, Smith, 2014). As the data are on different scales, it is necessary to convert them into the indexes (%) with the given baseline. The index is therefore the ratio of the value for the current period divided by the baseline value of the same indicator. If it is higher than 1 it reflects the fact that the value in the given year has risen in comparison to the value of the base year. In our analysis the year 2003 was selected as the base year.

## 5. Results

According to the literature review the most common method for measuring economic sustainability is gross domestic product (United Nations, n.d.; Daly, 1996; Division for Sustainable Development, 2001; Lawn, 2006; Nováček, 2010). Even though within the tourism industry the gross domestic product of tourism is used as a key indicator of the economic performance of tourism within a country (United Nations, n.d.), it is not essential to use it for the purposes of finding correlations. The main reason for this is that according to Tourism Satellite Account, the consumption of internal tourism is a part of the GDP of tourism and therefore the dependence and relationship between these two variables is clear. The gross domestic product for the Czech Republic as a whole was therefore taken into account. Gross domestic product measures the performance of an economy and is one of the most monitored indicators of economic health. The second most widely used indicator is that of the consumption of internal tourism as monitored by Tourism Satellite Account. This represents the expenditures that were spent on both domestic (by residents of a certain country) and inbound (by non-residents travelling to a certain country) tourism (Czech Statistical Office, 2015b).



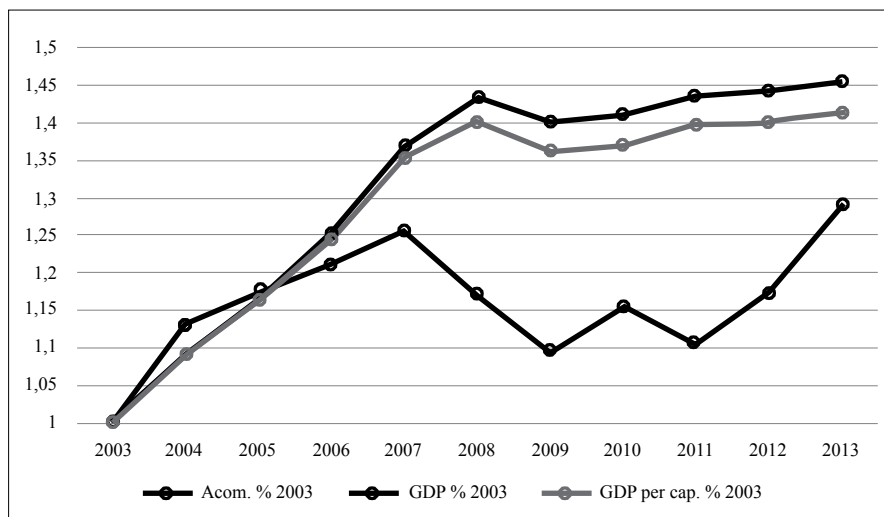
**Figure 1.** Trend in the development of domestic and inbound tourism expenditure on accommodation

Figure 1 shows the total domestic and inbound tourism expenditure on accommodation for the years 2003 - 2013. As is evident, the trend (described by the linear regression line) is upwards, but there was a sharp fall during the crisis period 2008 - 2012. The data for 2013 are better than at their peak in 2007, indicating a full recovery to pre-crisis levels and further expansion. The slope of the linear regression line is only 350.5 which, without the fall in this parameter (average annual increase), would have been higher.

**Table 1.** Domestic and inbound tourism expenditure on accommodation and GDP

Czech Republic (mil. CZK)	Accommodation	GDP at the purchase price	GDP per capita
2003	33706	2 801 163	274 579
2004	38017	3 057 660	299 567
2005	39606	3 257 972	318 345
2006	40749	3 507 131	341 604
2007	42280	3 831 819	371 204
2008	39469	4 015 346	384 992
2009	36921	3 921 827	373 810
2010	38917	3 953 651	375 921
2011	37266	4 022 511	383 218
2012	39471	4 041 610	384 575
2013	43462	4 077 109	387 900

According to Table 1 it is clear that GDP over the given period rose, but that in 2009 - 2010 it fell below 2008 levels, likewise for GDP per capita in the period 2009 – 2012. However, the crisis had a substantially larger impact on the accommodation sector (see Figure 2). When each of the years for the studied period are compared to the base year 2003 (for each of the described indicators) it is evident that the decrease in expenditure on accommodation started one year prior to the decrease in GDP and that the drop was much sharper. As can be seen in Figure 2, by 2013, when expenditure on accommodation had recovered and grown beyond the peak achieved in 2007 (prior to the crisis), expenditure had increased by almost 30% in comparison to the base year. However, over the same period, both GDP indicators had increased by more than 40% in comparison to 2003.



**Figure 2.** Development of indicators for the period 2003 - 2013

We can also describe the relationship between the indicators through the correlation coefficient (see Figure 2). It is evident that GDP and GDP per capita must be correlated but that even though the correlation for accommodation is positive, with a correlation coefficient of 0.5, it is not so strong. The reason for this is the crisis because the correlation coefficient between accommodation and GDP for the period 2003 - 2007 is higher than 0.95.

The same problem is illustrated in the scatterplot (see Figure 3). The best-fit linear regression line is in this case  $y = 87.35x + 267041.7$  which indicates a positive increase in GDP of 87.35 when accommodation rises by 1. If only the years 2004 - 2007 and 2013 are taken into account, the linear dependence between accommodation and GDP would be almost perfect. However, the years 2008 - 2012 are completely out of this trend. On this

basis, it is clear how big an impact the crisis had on the relationship between these two indicators. In this case it can be assumed that GDP is dependent on accommodation. However, if an inverse relationship were to exist, an increase in GDP by 1 would imply an increase in expenditure on accommodation of 0.003.

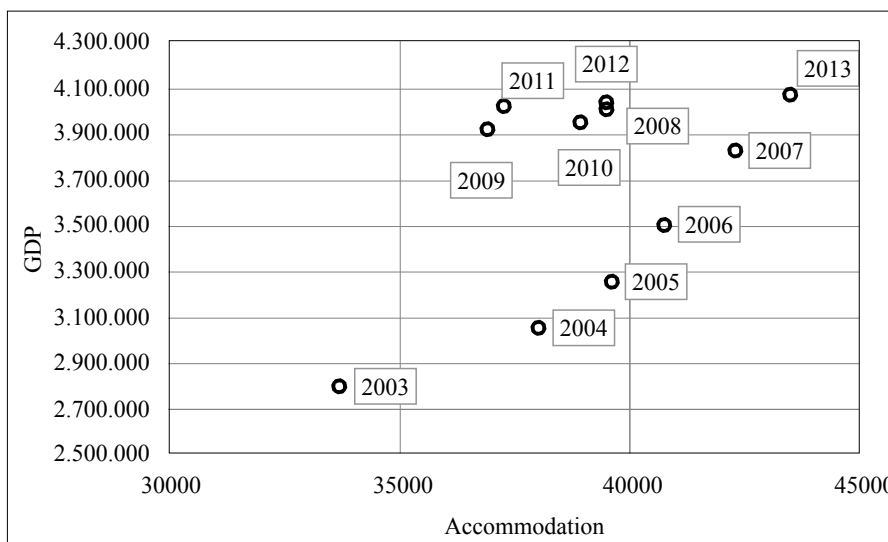


Figure 3. Dependence of domestic and inbound tourism expenditure and GDP (purchase price)

## Conclusion

Hotels offering accommodation and hospitality services in the 21<sup>st</sup> century are operating in a turbulent market subject to rapid globalization and constant change. The economic crisis is evidence of the impact this business environment can have and has had on almost all sectors of the tourism industry, including the accommodation sector. Managers had to rapidly decide how to respond effectively to the changing conditions during the crisis. Experts estimate that this so called “crisis in the hotel industry” occurred when the euro exchange rate fell to CZK 24/EUR 1. At that time (around 2009), hotel profits fell dramatically and they were forced to reduce costs accordingly. As a result, most hotels were forced to focus more on customer care. In Figure 3 it is clear that for the period 2003 – 2007 the growth in internal tourism expenditure on accommodation ran parallel to the growth in GDP, whereby the decline in 2007 was only reflected in the GDP figures a year later. The decrease in expenditure on accommodation by both domestic and foreign tourists was much sharper. It took until 2013 for expenditure levels to return to their pre-crisis levels and for the growth trend to continue. The impact of the crisis years is clearly visible and can in part be explained by the decline in the Euro exchange rate, but also by an overall decline in the income levels of individual tourists. Residents, with commitments to at least one foreign holiday, therefore had less money at their disposal for domestic weekend trips.

The trends in tourism are highly uncertain. This is not only due to the migration crisis but also due to general security issues at tourist destinations. Fortunately, the Czech Republic is still viewed as a safe destination.

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