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BUSINESS ENVIRONMENT FOR HOSPITALITY ENTREPRENEURSHIP

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Abstract

Entrepreneurship penetrates all spheres of the economy and life in general. It develops in a particular business environment, which looks for developmental opportunities. Within this environment, a wide spectre of factors is at work: social, cultural and political. These factors can promote or discourage entrepreneurial activities. In this process, state mechanisms play an important role. The main purpose of this paper is to get insight into how the entrepreneurs in small hotels (SH) in Slovenia asses the business environment for running small hospitality businesses. Empirical research was conducted in Slovenia in 2014 and 2015. The data were collected from SH entrepreneurs and SH directors during 62 semi-structured interviews. We analysed data with qualitative methods: interpretation, comparison, grouping, quantification. The results of the research provide a clear insight about major issues that Slovenian entrepreneurs have to face in the business environment when running their SH. They are – at certain points – consistent with findings in other countries. The research can assist the state institutions to implement certain measures and mechanisms to improve institutional framework for entrepreneurship.

Key Words

Entrepreneurship; hospitality; small hotels; business environment.

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INTRODUCTION

In academic literature, there are different definitions of entrepreneurship, entrepreneurs and enterprise. Some author (e. g. Ateljević and Li, 2009; Lee-Ross and Lashley, 2009) state that the reason lies in their multidisciplinary nature. Cerović (2010) advocates that those phenomena are interactively connected and form an interdependent whole. General Entrepreneurship Monitor (GEM) adopts the definition of entrepreneurship after Raynolds (1999; after GEM 2015, p. 17) in the context of understanding its importance for ensuring economic growth.

How we define entrepreneurship also depends on the study being conducted. It can be understood differently when studied from the point of view of macro or micro economy (Antončič et al.; 2002):

a) in macroeconomic sense entrepreneurship is understood as a driving force of general social progress – in the search of global market equilibrium it creates developmental dynamics, growth, company development, the development of regional and national economies as well as the world economy;
b) from microeconomic perspective it is understood in the sense of satisfying market needs - seeking market equilibrium in supply and demand for goods and services, which are offered by individual economic units.

Entrepreneurship can be found in various forms (individual, collective, social) and in different areas of economic and non-economic activities; however, some forms are more popular in certain spheres that others. According to Sahut and Peris-Ortiz (2013) a small business provides by far the most conducive environment for entrepreneurship. Tourism and hospitality, for instance, depend on individuals who found business opportunities in accommodation, food services and tourism: they transform their ideas into businesses and realise their business ventures within small and medium sized enterprises – SMEs (Lee-Ross and Lashely 2009). Cerović (2010) classifies them as entrepreneurs that belong to the so-called individual entrepreneurship. Within SMEs the same person unites ownership, entrepreneurial and managerial function. In practice, restaurants, tourist accommodation and small hotels with up to 50 rooms (apartments) belong to this group.

Business ventures are influenced by various factors, which compose the business environment. It is determined by (Glas, 2002; Lee-Ross and Lashely, 2009; Hisrich et al. 2010):

a) the environment that is external to the enterprise (macro: political, economic, socio-cultural and technological factors; micro: state and local authorities and institutions, suppliers, customers etc.);
b) the environment that is internal to the enterprise (value system, organisational structure, physical assets etc.).

With the term business environment in this research, we address the micro factors that are generally in focus when researching the external factors for running a business (e.g. in EU-lex, 2011; Ratten, 2014). We answer the following research question: how entrepreneurs who run small hotels (SH)

asses the business environment in Slovenia for operating their hospitality business.

The paper is organised as follows. First, we present theoretical framework on business environment for entrepreneurship development with emphasis on the role of the state mechanisms. We continue with the presentation of methodology and research results. The conclusions are summarised in the next section. At the end we compare the results of the study with findings in existing literature on applicability of the results.

THEORETICAL FRAMEWORK

Entrepreneurship comprises a complex and closely interwoven operation of many factors" (Rebernik et al., 2017). It develops differently within individual counties. Many macroeconomic and institutional causes can explain the differences in entrepreneurial intensity between countries and areas; they refer to what W. J. Baumol names "the rules of the game" (Adbesselam et al., 2017). For Glas (2000), a macroeconomic assumption for the development of entrepreneurship is effective market operations. Stable economic environment makes it possible for entrepreneurs to plan better and focus on the key advantages of their entrepreneurial activities (ibid). External environmental factors that influence entrepreneurs' actions during the initial phase seem to be more important for company growth than the so-called internal factors, which are mainly influenced by entrepreneurs themselves (Pšeničny et al. 2000).

In the existing literature, the factors of business environment created by the state and its' mechanisms refer to institutional environment (Gupta et al., 2014) – mostly as regulatory, normative and cognitive institutional environment (e. g. Sambharya and Musteen, 2014; Volchek et al., 2014; Hadjimanolis, 2016; Fortwengel and Jackson, 2016). Rebernik et al. (2017) include some institutional factors for business environment in entrepreneurship ecosystem which consist on nine entrepreneurial framework condition categories (entrepreneurial finance, government policies, government entrepreneurship programmes, entrepreneurship education and training, R&D transfer, access to commercial and legal infrastructure, internal market dynamics and burdens or entry regulations, access to physical infrastructure, and cultural and social norms).

Government policies and regulations play a key role in creating a more favourable entrepreneurial environment (Rebernik et al., 2017). They help entrepreneurship development in different ways: with well-formed and focused developmental programmes, through creating supportive culture for entrepreneurship, by encouraging collaboration, by giving recognition and respecting successful entrepreneurs etc. (OECD 1998). In favour of entrepreneurial development countries can ensure a healthy entrepreneurial climate by not interfering into business matters and economy, by respecting targets set by people, by ensuring legal frameworks for efficient market mechanisms, by implementation of sound financial policy and various incentive measures etc. (Žižek, 2000). States can also promote the

development of entrepreneurship and SMEs by providing subsidized loans, tax reliefs during the initial phase, subsidies for new jobs etc. Other forms of state support are reflected in the development of entrepreneurial infrastructure that offers different forms of assistance, e.g. the development of specialised financial organizations for SMEs, advisory networks, education and training organisations, entrepreneurship zones, incubators, technology parks and the like (Glas, 2000).

As entrepreneurial activity fluctuates together with the economic activity, the creators of state policy have to prepare such socio-economic programmes that will encourage economic development (Bosma and Levie 2010). Some examples of support measures are shown in Table 1.

Table 1: State support frame for the promotion of entrepreneurship

CONDITIONS FOR ENTREPRENEURIAL ACTIVITIES	DESCRIPTION
Economic and professional infrastructure	Presence of business, accounting, legislative services and institutions, which enable setting up new enterprises
Government policy	Taxes and similar payments that influence nascent enterprises
Government entrepreneurial programmes	Introduction and quality of direct programmes, which encourage setting up and growth of enterprises (on the state, regional and local level)
Financial support	Access to financial resources: ownership, debt and non-reimbursable aid
Openness of domestic market	Access to and exchange of business partners, and new contractual relationships when new companies enter the market
Education	Education related to setting up and managing small, new and nascent enterprises (in primary schools, secondary schools and HEIs)
Cultural and social norms	Incentives, awards given for novel business approaches
Research and development	The scope of research and developmental solutions leading to new economic opportunities
Access to physical infrastructure	The availability of communication channels, transportation, land, buildings at equal price for all

Source: Bosma and Levie (2010, p. 33).

The EU has also introduced some forms of support for entrepreneurship and SMEs. In order to encourage successful entrepreneurship, the EU adopted in 2008 (and updated it in 2011) Small Business Act. The main

purpose of the act was to improve business environment for SMEs and help them in fulfilling their potential in the global economy (EUR-lex 2011a).

METHODOLOGY

We conducted the empirical research in SH of Slovenia in 2014 and 2015. Data were collected as part of a comprehensive research on hotel entrepreneurship in Slovenia.

For the research purpose, we determined a SH as being a privately owned (entrepreneurial) small tourist accommodation (at least 10 and not more than 50 hotel rooms/units) that offers hotel services. We identified 125 SH in Slovenia, and subsequently 125 SH entrepreneurs.

Data from SH entrepreneurs (SHE) and SH directors (SHD) were collected using the method of semi-structured interviews. This research method was selected as the most appropriate to achieve the research goal: a) to increase the sample of population of SH (people are reluctant to fill in questionnaires sent to them by mail or e-mail) with personal approach, b) to get better understanding of how interviewees think, react and to listen to their stories; c) to collect "the first-hand" experience.

All SH entrepreneurs were invited to participate in the study and were asked to do so more than ones (with e-mail, with previous personal visits by the researcher, or/and by a phone call). If a SH was managed by a SH managing director and not by a SH entrepreneur her/himself, we first ask SH managers to participate; if they refused we invite SH directors.

Participants were interviewed in their natural settings by the corresponding author. They were asked one question: how they asses the business environment for operating their SH, with pre-prepared sub-questions used when necessary.

Qualitative data collected in semi-structured interviews were analysed through interpretation, finding patterns, comparing features and differences. Some interesting statements are presented in verbatim form (or paraphrased); some data are quantified.

When making the analyses we took into the account the theoretical perspectives of the studied phenomena from existing findings in literature about entrepreneurship in general and hospitality entrepreneurship.

The masculine form is used in text for male and female participants.

RESULTS

We interviewed 50 SH entrepreneurs and 12 SH managers (49,6% response rate). The structure of interviewees *by gender* is fairly uniform: 32 men and 30 women.

Our interviewees were between 30 and 49 years old: SH entrepreneurs were between 40 and 49 years old (44 %), SH directors were, on average, ten years younger. More than half of SH entrepreneurs and SH directors had a college level of education or higher (Table 1).

Table 1: Gender, age and level of education of interviewees

		SH ENTREPRENEUR		SH DIRECTORS	
		f	f %	f	f %
GENDER	Male	29	58,0	3	25,5
	Female	21	42,0	9	74,5
AGE	Less than 30 years	5	10,0	0	0,0
	30–39	15	30,0	9	75,0
	40–49	22	44,0	2	16,7
	50–59	6	12,0	1	8,3
	More than 60 years	2	4,0	0	0,00
LEVEL OF EDUCATION	Secondary	21	42,0	4	33,3
	Higher	9	18,0	3	25,0
	High/university	19	38,0	5	41,7
	M.A./Ph.D.	1	2,0	0	00,0

Note: f = frequency (n = 62), f % = percentage.
Source: Own calculations.

The interviewees considered that legislation, numerous laws and regulations, »limits business activities« (SHE1[1]), that they are frequently »impractical« (SHE8), »there are too many of them and they change too often« (SHE1, SHE3, SHE5, SHE7, SHE12, SHE19, SHE21), e.g. fire regulations, regulation regarding food safety, etc. Instead of being occupied with their guests, interviewees spend time studying laws and regulation (SHE5). »The state should work towards entrepreneurial freedom and enable space for people to be able to work« (SHE1). Above all, the state should not »change laws and regulations in the middle of the year«, as was done in the case of VAT (SHE5, SHE8): »prices in hotel industry are set for the next year«, thus the increase in the tax rate in the course of the years had a negative effect on financial results of SHs. »It is difficult to follow all the rules and regulations; I spend one fifth of my time for figuring out how to survive« (SHE35).

Regulation on categorization of hotels unnecessary complicate the conditions of hotel business operations (SHE5, SHE7, SHE8, SHE20). Because of them some hotels have to lower their quality level, defined by the number of stars. »This did not influence our grade, but have an impact on our image; guests keep asking what is going on« (SHE5). Such regulation »guaranteed a job to government officials, but they do not contribute to tourism quality« (SHE5). Today, »when everything can be found on the Internet, the categorisation is senseless« (SHE8). It is thus not reasonable that the state forces SHEs »into a categorisation, because stars in Slovenia are not what they should be« (SHE20). SHE35 did not categorise his SH: »I don't need a categorisation, which is why I do not have it; my hotel is categorised by a high grade on Booking.com.«

[1] Each interviewee is marked with the number from 1 to 62.

Business activities of SEHs are limited by too much administration, required by the state, by filling in the forms, by keeping records, statistics, etc. (e.g. SHE5, SHE7, SHE26, SHE27, SHE28, SHE45, SHD53, SHDD57, SHD62). Among the SHEs who were building their hotel (SHE10, SHE5, SHE12), only a few obtained the building permit without problems. »If bureaucrats had to earn their money on the market, everything would change; it is getting a bit better, but we are still light years behind« (SHE5).

Work in SHs is too often disturbed by inspector controls (e.g. SHE25 SHE30, SHE54). Inspectors play a role of »money collectors« (SHE21) and are sometimes »more papal than the Pope« (SHE47); and there are too many of them.

Interviewees suggested that the state should improve the tax policy instead of sticking to the punitive policy towards SHs; small enterprises are being »strangled« (SHE13, SHE20, SHE35), »small and large enterprises are in the same basket« (SHE14), »they are overseen« (SHE52) and »nobody cares for their development, as promised on the paper« (SHE55). »Large companies are a different story; in Slovenia it is different than abroad where small enterprises get their share of the cake« (SHD59).

SHs are continuously burdened with »new requirements imposed by the state, which represent additional costs for the SHs « (SHE23). »Everything that has been introduced by the state, should be paid« (SHE3). The price for the »mandatory inspection of oil filter is 500 euros« (SHE23). There are too many state »parasites, who kill us by adding cost, e.g. SAZAS, IPF, RTV« (SHE5, SHE8, SHE14, SHE35, SHE53, SHE56). State requirements are among »the worst in Europe« (SHE23).

The field of »flexible work« changes in a positive direction, but the existing solutions are not adapted to the needs of small employers (SHE20). »Being small, we cannot afford to employ someone, because the expense is too high; we are forced to illegally employ and risk paying a fine «(SHE13).

According to interviewees the state should follow the example of the neighbouring Austria when planning incentives for the development of entrepreneurship. In Austria »you get a consultant when you enter the entrepreneurial path, who trains you for this sort of work« (SHE20). The state should also change the lending policy of Slovenian banks: »In Austria, you can get a loan for 50 years, in Slovenia you get a loan for ten or 15 years« (SHE26).

Some interviewees rate poorly the relationship of the state towards tourism and the relationship of institutions responsible for tourism in Slovenia. They were unique in thinking – especially those who were well acquainted with tourism and former tourist workers – that Slovenia is unable to »position itself in tourism« (SHE15), »is unable to define its tourist products « (SHE49) or that we still »do not know, what we are and where we would like to go« (SHD62).

»We play the game of high tourism in Slovenia, but we are unable to provide the right offer. We are a 3* destination and nothing more; which is reflected in the type of guests we have. If we want to raise the level of services, the state should help us, because individuals alone cannot fight for the development of tourism on their own. Subsidies for the development of

tourist infrastructure were a promising incentive, but not sufficient. We need to take care of the development of the whole infrastructure and for the development of tourist offer. In practice, there have been examples of irrational use of state subsidies for failed projects. People believed that 'if we get something for free, we should take it', they were not thinking about the risks, long-term business operations, or if they would succeed or not« (SHE15). SHE37 shares this opinion.

A number of interviewees believe that »on the state level there is no right direction or measures that would foster tourism« (SHE26), that »the state does not support tourism« (SHE13, SHE32, SHE39). SHE32 mentioned an example of good practice of state support for tourism in the past, namely the Association of small hotels. It worked until it was financed by the state. When the financing dried up »the project died«. There were »many words, but little done; the only thing that remained was a brochure about small hotels in Slovenia« (SHE32).

The trend of accumulating projects in Slovenian tourism without any results in practice was mentioned by SHE49 and D51: »We waste money for numerous projects and strategies, which remain in drawers and which have no practical value. Someone thinks about a project, some people join it and everyone is happy, because they 'network'. There is no assessment if the project was successful. No one asks questions, which is a far cry from a healthy entrepreneurial logic. If you have a look at projects and strategies, you find out that everything is done in the same manner of 'copy – paste', the remaining part of the document being pure data« (SHD51). »Projects start and finish, but there are no responsible people, who would see to its implementation. In this way, we only plan a project after a project. Public tourism players, financed by the public money, operate as if they were working for themselves, and not for the effects seen in the real environment. Nobody measures the effects of invested money. There is no integrated approach, investments are dispersed, money is inefficiently spent« (SHE49). »In Slovenia, the slogan 'I feel Slovenia' is where everything starts and ends. The relationship between the state and tourism is the same as the relationship between the owner and me: he is not familiar with the tourism, so he cannot understand it, and I cannot discuss tourism with him« (SHD59).

Marketing and promotion of Slovenia abroad is another topic that interviewees could not positively comment upon (SHE40, SHE45, SHE49). »Because there are so many tourists from abroad, Slovenia should present itself as one destination; each of us should not bring their own leaflet« (SHE49). »Individuals in Slovenia Tourist Organisation (STO) enjoy travelling to India and China, but we do not profit anything from this. Marketing within 500 kilometres from Slovenia is neglected, despite the fact that this is where the majority of our guests come from« (SHD51). »STO and local tourist organisations are full of people, who lead tourism, but do not understand it: it is either their out-dated mentality or their own benefits that play a decisive role« (HE48).

Interviewees miss support for hotel entrepreneurship in the field of marketing. They cannot do it on their own, because »the expenses are too high for small enterprises« (SHE32), because they are »too small to be

present on exchanges and fairs« (SHE9), and because »they do not have time« (SHE29). They also believe that »Slovenia should become connected with the rest of the world through better international air traffic routes« (SHE52), and within Slovenia we should »improve road infrastructure« (SHE5).

On the local level, interviewees assess tourist players in a similar way as they assessed them on the state level. »Local scene«, including local tourist organisation, was assessed as »extremely poor« by SHE24 and SHE26. Both SHEs are bothered by the absence of quality offers and by the passivity of local tourist organisation in an established tourist destination. »There is nowhere to park and few opportunities to spend money. Tourists should be prepared in a diplomatic way to spend money« (SHE26). »For the New Years' day we organised ourselves and decorated the city« (SHE24). SHE37 is disappointed by the positioning of the destination by local tourist players, which, in his opinion, could be much better. He believes that the local authorities changed the location into »social destination, some sort of 'Disneyland', with events reminding one on 'utter emptiness'. The destination is not interesting for tourists who rarely stay more than two days«.

Interviewees were critical about the negative attitude of the general environment towards entrepreneurship and about »the envy of people towards entrepreneurs« (SHE39, SHE41, S HE13). »People are envious; when we started, we were doomed to failure« (SHE43). »Everybody is so smart about what I should do about tourism, without saying anything how they could contribute towards the development of tourism in our city«. They miss collaboration in the local environment (SHE32): »Instead of being involved in collaboration, they all push in their own direction«. (SHE5): »By issuing building permits for holiday villages, local authorities transform the place into a ghost city«. (SHE11): »Instead of seeing a partner in you, they see you as a rival«. It is unclear to people that all should be involved in tourism, because the hotel without any other services cannot bring tourism to the place«.

CONCLUSION

The results of the research give answer to the question how SH entrepreneurs asses the business environment for running hospitality business in Slovenia. We summarise it in three key findings. SH entrepreneurs:

1. do *not consider* the business environment for hospitality entrepreneurship in Slovenia *as supportive*;
2. exposed *several issues and disadvantages*, but only few positive points;
3. understand the business environment generally from the stand point of *institutional environment of the state and local public mechanisms*; SH entrepreneurs:

a) were particularly critical toward attitude of the state institutions towards entrepreneurship and consider it as »step-motherly«, »anti-entrepreneurial« or »demotivating«;
b) expressed greatest dissatisfaction with: numerous regulations, too many changes in regulation, impractical solutions, extensive administrative tasks, frequent new obligations which brings additional cost, rigid labour laws, taxation burdens, frequent inspection controls and high fines, equal treatment of small and large enterprises;
c) draw attention to the inadequate relationship of the state and its players toward tourism development and the obstacles they are faced with in their local environment; participants with previous experience in tourism were most critical towards the state and public tourist institutions;
d) emphasise inefficiency of public tourism institutions: no right direction or measures that would foster tourism; accumulating projects in tourism without any results in practice; no assessment if the project was successful; no integrated approach; investments are dispersed; money is inefficiently spent; subsidies for the development of tourist infrastructure are not a sufficient measure; the whole infrastructure and tourist offer should be developed, care for the development of the whole infrastructure and for the development of tourist offer; the state should help, because individuals alone cannot fight for the development of tourism on their own;
e) are not happy with: support of the local scene, passivity of local tourist organisation (assessed as »extremely poor); the absence of quality offers; negative attitude of the general local environment towards entrepreneurship (envious people); collaboration in the local environment.

DISCUSSION

The research on business environment for entrepreneurship in hospitality in Slovenia shows that some results are in consistence with existing theoretical and empirical findings about business environment for entrepreneurship in general; however, some findings contradict them.

Among external factors of business environment for hospitality entrepreneurship the role of the state mechanisms was highlighted by the majority of respondents. This finding is in accordance with Lee-Ross and Lashely (2009) and Rebernik et al. (2017) who believe that the state mechanisms play an important role in providing opportunities for entrepreneurship development.

In addition, the results of hospitality entrepreneurs support the findings of Rebernik et al. (2017) on entrepreneurship in Slovenia (for 2016). This research shows that most of the entrepreneurial framework conditions in Slovenia are still rated below the EU average (with few exception). The

same research includes some recommendations for the improvements of government policies related to the profound tax reform, to the removal of administrative obstacles[2], as well as to the simplification of bureaucracy.

However, Slovenian hospitality entrepreneurs do not feel to be supported by the local population. This finding about the attitude of Slovenians towards entrepreneurs is not in accordance with the results of research of Rebernik et al. (2017). In their research two thirds of the population in Slovenia believe (results are for 2016) that successful entrepreneurs in society are well accepted and enjoying a good reputation.

There are some limitations to be noted. Small hotels are representatives of entrepreneurial hospitality business in tourism accommodation sector, but not the only ones. However, other accommodation entrepreneurs (SMTES) run their hospitality business under similar conditions and in the same business environment. Secondly, some changes might have happened in the business environment during the data collection that lasted more than a year. Thirdly, there are general limitations related with the interview research methods: subjectivity at data collection and representation. Despite these limitations it is believed that the findings in this research are valid for the whole small accommodation sector.

Results of the European Chamber research on the best economic environment in European countries - best European countries for business in 2016 - listed Slovenia on the 21st place from 46 countries (EuCham, 2017). We believe that this finding together with other findings mentioned in this paper strongly indicate that certain changes in institutional mechanisms should be implemented for the improvement of hospitality entrepreneurial business in Slovenia.

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[2] E. g., in research Entrepreneurship in the EU and beyond (2009) 71% replied that there are too many administrative barriers for setting up a company.

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AN INVESTIGATION INTO THE PRICE TRANSMISSION BETWEEN PRODUCERS AND RETAILERS WITHIN THE UK MILK MARKET

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Abstract

The main aim of this article is to investigate the price transmission of milk between the producers and the retailers within the UK to understand the influence of large retailers on the market. In recent times smaller dairy farms have been forced to close down because they believe that prices are not being conveyed from retailers to producers. The research interlinks well-established econometric tests, which are frequently used within vertical price transmission research to gain an understanding of the transmission from producer to retailer. These are unit root tests, cointegration tests and causality test. The main findings were that there is a unidirectional transmission of milk prices in the UK between producers and retailers. The Granger causality test shows that causality runs from the retailer to the producer and but not from the producer to the retailer. There was a significant break in 1994, which is when the MMB disbanded and has provided a new research gap. The direction of causality means that when producers are losing out to large retailers. The ECM results indicate that the prices are slow in recovering to a new equilibrium after a shock has occurred. Research specifically on the UK milk market is limited and therefore this research is a basis for future studies, which will help policy makers when moving forward post brexit.

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Key Words

Price transmission; retailer; producer; milk.

INTRODUCTION

This research is going to investigate the vertical price transmission of milk between producer prices and the retailer prices within the UK. Price transmission is the process, which measures the relationship of prices between two markets. The two types of price transmission are horizontal and vertical. Horizontal price transmission explores the relationship of prices across different markets for example across two countries. This provides a good comparison between two similar markets, which is useful for benchmarking. Vertical price transmission measures the relationship upstream and downstream within the specified market. It is used to assess where value is added within supply chains and particularly within agriculture to establish the relationship between producers and big retailers. Both horizontal and vertical price transmissions have been used effectively in econometrics to investigate the relationship of prices during fascinating and challenging financial times. Agricultural products are notoriously volatile in price and therefore econometric techniques are frequently used to investigate the relationships of prices.

On average UK dairy farms are increasing in size and productivity is rising causing smaller dairy producers to struggle to cope with decreasing prices paid from retailers and increasing production costs on farm. The result of this is that many smaller producers have had to resign from milk production. The anger from producers is being directed at large retailers who hold massive bargaining power when it comes to negotiating prices. In order to protect the UK dairy industry in the future it is necessary to understand where the issues are.

This dissertation will conduct a literature review, which will analyse current research in order to gain an understanding of what methods previous studies have used and what they have already found. This will establish a gap in the current literature where more research needs to be undertaken and expose which methods are successful and which methods have limitations. The methodology will then outline the details of how the research is going to be completed. From the literature review it should be possible to get a good interpretation of what econometric approaches will be useful and applicable. The methodology will outline what type of data is required and how it will be collected, what theories will be applied and what statistical tests will be used. Once the research has been undertaken the results will be displayed. Relevant comments will support the results and where applicable explanations will be provided for the findings. Lastly the research will be concluded, binding together the whole research proposal and listing any comparisons with previous research, any weaknesses and any strong findings. This will establish any areas for further research.

LITERATURE REVIEW

The Application of Price Transmission

Agricultural markets are one of the most common areas of study for price transmission as a result Meyer and Cramon- Taubadel (2004) investigated how effective asymmetric price transmission actually is. They used a number of methods to examine possible causes of asymmetric price transmission and they investigated the empirical tests used to determine results. They found that research struggled to combine both the theoretical and methodological aspects of asymmetric price transmission. It was established that in particular the agricultural studies, which account for large proportions of this work, failed to link theory and methods together. As a result researchers in other fields of economics often overlooked these studies. They suggest that more emphasis needs to be put on the quality of the data, the relevance of the results in relation to the external economy and explanations behind the results. This led to modern research using techniques that could prove the validity and reliability of the data.

Price transmission has been studied extensively and Conforti (2004) researched claims that there were as many as six factors affecting price transmission models. These were Transport and Transaction costs, Market Power, Increasing Returns to Scale in Production, Product Homogeneity and Differentiation, Exchange Rates and Border and Domestic policies. It was believed that these factors contribute to the behaviour of a vertical or horizontal price transmission model. These factors are important to understand, as they will have an influence on the results of future studies (Conforti, 2014). The research looked to provide support and point out weaknesses of price transmission within agriculture. The research was based on a range of countries all of which have a strong basic food commodity trade improving the significance of the studies results. Due to the scale of the investigation it is difficult to generalise the results however a geographical regularity was discovered providing evidence that the price transmission model is accurate. It was also found that transmission within a domestic market is more integrated than transmission between domestic and border prices. When analysing data for a given product it is more reliable to use figures from producers, retailers and wholesalers within a domestic market instead of incorporating world prices. The last finding was that price transmission arose for products that are regulated by public intervention, for example policies. Many of the potential pitfalls highlighted in this study would not affect data, which is contained within one country.

The six factors Conforti (2014) identified as price transmission influencers are reciprocated in other studies. An et al (2016) found that boarder and domestic policies were key components to the volatility of wheat and flour market prices in Ukraine. In addition to this Assefa et al (2014) explained how market power affected the asymmetry of Dutch potato prices between retailers and farmers. Farm price decreases were not fully transmitted to the retailer price however farm price increases where almost perfectly

transmitted to the retail price. The limited markets available for producers to sell their potatoes explained this. With few retailers, due to their colossal size, there isn't any alternative competition for producers to market their potatoes to. Parsley (2003) inspected the influence exchange rates have on both vertical and horizontal price transmission. The exchange rate pass-through was compared within world prices and within domestic prices. The results demonstrated that individual domestic markets are more responsive to currency rate changes, which isn't reciprocated at world price levels. This was expected as previous research from Goldberg and Knetter (1996) had mirrored these results, however this was on a larger scale and therefore more reliable. Research in to exchange rates and in particular the pass-through is imperative for policy makers within countries as decisions being made will affect the domestic market structure (Baldwin, 1988). This will therefore have an impact on the price of goods and influence the price transmission between producers and retailers. These findings are significant as it confirms that the six influencers Conforti (2014) found, hold true for a large number of markets and therefore need considering when analysing milk prices.

Previous Empirical Results

The nature of examining price transmission means that using secondary data is the most effective data to use (Lloyd, 2017). Slagboom et al (2016) conducted online surveys to collect primary data to explore the organic dairy industries production in comparison to conventional farmers. Using online surveys meant a large amount of surveys could be conducted however participants may not be motivated to answer appropriately and therefore the validity and reliability of the data is questionable. The study is limited because of the methods Slagboom et al (2016) used in collecting data. Similarly to this Tuckett (2012) used an interview technique to gather market information on financial markets. When using quantitative tests in research it has often been argued that this method of collecting data is unsuitable (Gray, 2013). However Tuckett (2012) found that interviews could be an effective tool for backing up finical data and give explanatory narrative to quantitative data. It has to be noted that this was based solely on one interview, which shows significant fragilities within the research. When conducting this research it will be possible to give qualitative explanations for the data by reading extensively around the topic. Having access to huge amounts of qualitative data online will give sufficient explanations to back up any findings.

McLaren (2015) researched world markets and their effect on local agricultural markets asymmetry in price transmission. The consequences in local markets of a poorer price transmission could mean farmers going below the poverty line (Mosley and Suleiman, 2007). Mclaren (2015) found that where there was a bigger presence of large intermediaries, big powerful organisations like Cargill, then the asymmetry is stronger. Local agricultural markets can be harmed, particularly in poorer countries by a high degree of asymmetric price transmission when large intermediaries are present. This is

also the case in recent years for UK milk producers who have seen their payments decrease to levels below the cost of production (AHDB. 2017).

Investigating the relationship between the producer and retailer has become more interesting recently as it is claimed that retailers have obtained too much buying power (Acosta and Valdés, 2014). They suggest that a lack of communication between the milk sector and government organisations has lead to insufficient policies being used within dairy markets around the world. In view of this, econometric analysis has developed so that the relationships of the price between producers and retailers can be easily studied (Hassouneh et al., 2012). As a result it is possible to understand what causes the price fluctuations. Hassouneh et al's (2012) explored techniques where co-integration and whether unit roots did or did not exist. Unit roots signify whether data is stationary, which means it is reliable and valid for testing. Co-integration examines whether the data has a long run relationship. The methods they used to test for unit roots were the ADF test (Dickey and Fuller, 1979) and the PP test (Perron, 1997). They concluded that if the data had unit roots then it was applicable to test for co-integration. If unit roots are not present then instead use the vector error correction model for co-integration, with stationary data. Hassouneh et al (2012) tested co-integration using Johansen's (1988) approach. It was concluded that if there was co-integration and therefore there was a long run relationship between the two sets of pricing, then further in-depth analysis could be applied. This includes Threshold Vector Error Correction Model and the Smooth Transition Vector Error Correction Model (Hassouneh et al., 2012). If co-integration did not exist then it should be tested using prices in first difference. Weldesenbet (2013) used this methed to test the asymmetric price transmission of liquid milk in Slovakia. There were worries over the productivity of the milk market price transmissions as the country saw a divergence of prices. Johansen's (1988) co-integration test and Granger's (1969) causality test was used. It was proved that the wholesalers and producers prices were co-integrated, as were the retailers and producers prices. The direction of causality is from the producers to the retailers and to the wholesalers, which means that if the producer price changes it effects the retailer price and the wholesaler price and therefore it was concluded that the Slovakian milk market is asymmetric. The methods used were similar to the findings of Hassouneh et al (2012) and the asymmetric results coincide with a volatile milk price seen in Slovakia.

Vertical and Horizontal Price Transmission

The steps used by Hassouneh et al (2012) and Weldesenbet (2013) are used in much of the contemporary research on price transmission. Bakucs et al (2012) used the same steps, Unit Root test, Co-integration and Causality test to examine the price transmission in the milk sector. The thing that separated this study was that it was one of the first journals to consider the price transmission across two countries, being Poland and Hungary. After confirming cointegration exists they found that in Poland the causality runs from the retailer to the producer however in Hungary it runs from the

producer to the retailer. In Poland the retailer price affects the producer's price whereas in Hungary, like Slovakia, the producer's price affects the retailer's price. This was explained by the high power of the dairy producers in Hungary, which does not exist in Poland. What it so effective about the methods used to analyse horizontal price transmission is that it can be applied to any country and any commodity and it is comparable, like in this instance, across two countries. By comparing two countries the study is not limited in the understanding of the speed and size of price adjustments as there is a direct comparison. The differences that arose between the countries gave evidence, which actually explained the speed and nature of price transmission. With a growing uncertainty around milk producers in Europe it is necessary to compare and contrast with similar countries in order to try and gain an understanding of the problems. Most theories suggest that the producer struggles are a result of increases in price from the retailers, which are not being transmitted down steam in the supply chain. In addition Bakucs et al (2012) also conducted the tests with structural breaks, which gives further confidence in the results that where obtained as it shows any shocks and spikes in the prices were considered.

Asche et al (2007) used both vertical and horizontal techniques when examining market integration and price transmission of salmon. The usual unit root testing and cointegration tests were applied but the producer prices were from the UK and Norway and the retailer prices were from France. Having multiple countries provided the horizontal aspect of analysing price transmission. The benefits of this are that there is a direct comparison of the two producing countries and therefore the trade disputes that have arisen can be answered for and settled. The results show a high level of integration and price transmission in both UK and Norwegian Salmon. There was no competition between the two countries at producer level however having a high level of price transmission means that any restrictions or advantages across the whole Norwegian supply chain will benefit or harm the UK supply chain at the corresponding level. Therefore the effects of salmon companies in Norway becoming more international could put pressure on the price of the UK producers. While an obvious advantage is that Asche et al (2007) had access to data from 3 countries and 2 complete supply chains the data was only for a six year period. This is a relatively short-medium term period and therefore the data may not be valid in the long run. In addition the French retailer prices could not be separated for Norwegian producers or UK producers leading to more potential inaccuracies. While the horizontal and vertical approaches combined have yielded more functional results, the data restrictions appear to have a large influence on how reliable and creditable the research actually is.

There is very little research about the price transition patterns of milk for the UK. Considering the recent hard times of UK milk producers it is surprising that this it has not been more thoroughly investigated. Franks and Hauser's (2012) research collected data using an online survey of UK milk producers, which it could be argued would give an imbalanced view. In addition using an on-line survey to gather data may be unreliable as only those who have a really biased viewpoint will take the time to answer it. The

need for the research was because the UK's MMB was disbanded in 1994, which left a void between milk producers and milk retailers. Franks and Hauser (2012) recognised this gap and explored two titles in relation to milk prices; "marginal value in the least remunerative use" or whether "the market had put in place some other mechanism for raising the price upwards" following the MMB collapse. They found that a better transparency of prices would result in better prices for the producer. The producers achieving the best price were the ones selling direct to processors rather than selling to one of three main farmer owned cooperatives. Conclusions found that since the break up of the MMB there could have been more done to protect the prices producers were paid for their milk. While Franks and Hauser (2012) raise some interesting points, there methods mean that only milk producers have taken part in the research. For future research it would be important to get a balanced perspective by using data from both the producers and the retailers. Despite this pitfall, there is an obvious need to look in more depth at the price being paid to producers and whether it reflects the price retailers are receiving.

The only current similar research to the price transmission of milk in the UK is for other products. Sanjuán, and Dawson (2003) examined price transmission between the retailer and producer for the prices of beef, lamb and pork. The purpose of this research was to investigate the affect the BSE crisis, which occurred in 1996, had on the meat industry. The methods used to examine the price transmission were the most common, unit root test, co-integration tests and causality tests. This is the same method, which Hassouneh et al (2012) discovered to be reliable when examining price transmission. By focusing on the UK Sanjuán and Dawson (2003) could investigate three different products. This differs to Franks and Hauser (2012) who compared across countries rather across different products. Both are successful and useful for looking at the explanation behind price transmission rather than just the theory. Sanjuán and Dawson (2003) found that the BSE crisis did not have any significant affect on the lamb or pork market. However there was a structural break in producer and retail prices of beef in 1996 in which the price transmission from producer to retailers was poor increasing the retailer's margin and benefitting them as a result. This is as expected, and is consistent with research that finds powerful retailers and intermediaries taking advantage of smaller producers (Dairy Co, 2011). Although Sanjuán and Dawson (2003) were using different products, there are many aspects of the methodology, which can be used to examine the price transmission of milk in the UK, particularly the use of structural breaks that may occur. By incorporating a break date in to the econometric tests Sanjuán and Dawson (2003) were able to judge whether this period of time (in 1996) had a big affect on the relationship between retailer and producer prices. A weakness of this study is that they could have gone further and examined the ECM, which would allow them to see the speed of recovery back to the equilibrium after the shock had occurred.

The Common Agricultural Policy

In 2003 there was a reform to the European CAP which changed how subsidies were distributed to dairy producers within the UK (Lelyon et al., 2008). This undoubtedly would have implications for the dairy sector as production costs are always increasing and therefore less subsidies would have a massive implication on producers. Zrakić et al (2015) investigated the implications of the 2003 CAP reform on the Croatian dairy industry. By using a simulation model and inputting policy, macroeconomic variables and producers pricing it is possible to forecast the future of the dairy industry. The results found that by 2025 productivity would increase by 25% and the dairy industry in Croatia would be in a more favorable position than before the 2003 reform (Zrakić et al., 2015). It was also suggested that in order to obtain the full benefits of the reform then dairy farmers would have to utilise funds from both the pillar 1 and pillar 2 CAP's. A limitation of using a simulation model like this is that the researchers are only predicting what is going to happen and they cannot allow for any external variables, which could have an effect on the dairy industry, for example Brexit. The data inputted in to the model is based on projections and therefore may be inaccurate and unreliable. Another general limitation of the CAP research is that there are very little studies on the 2003 reform in relation to the milk industry particularly for the UK, thus providing a gap for research.

Dairy Retailers

Within the UK 40% of raw milk sales are from four main supermarkets, which demonstrates the oligopolistic market (Dairy Co, 2011). A small number of large companies absorb a majority of national milk production. Dairy Co (2011) found that bargaining power, which works in relation to the size of firms, was one of the overriding benefits supermarkets could impose on producers. The main goal for the retailers is to satisfy the consumers, it means they do not proritise with producers (Dairy Co, 2011). The market failure of retailers not transmitting prices downstream to producers in some countries has lead to increased poverty and lower food security (Schroeder and Hayenga, 1987). Retailers offer contracts to producers however Dairy Co (2011) identified weaknesses within these contacts. These include no price certainty, long notice periods and no details on future negotiations. All these factors weaken the position of the producer and it is claimed that milk contracts are simply a "licence to supply" (Dairy Co, 2011).

Dairy Producers

British dairy farms have been struggling recently and their major concern is that retailers are not paying them a fair price. Farmers have been forced to close their businesses down or even go as far as pouring milk away because they are loosing so much money. Steffen and Spiller (2013) looked in to the efficiency of dairy producers and factors that could be hindering their performance. It was believed that if milk producers were not efficient then

they would struggle to make appropriate returns. The results found that one of the main factors contributing to lack of efficiency of dairy farmers was their willingness to adapt techniques and unite together to achieve a targeted milk quota for the future. Steffen and Spiller (2013) believed that increased efficiency throughout the supply chain there would enable dairy producers to be more profitable, even with reduced prices. This suggests that the producer is at fault for recent hard times in the milk industry. de Fátima Oliveira et al (2014) originally opposed this view and believed the price paid to producers had a bigger influence on the milk industry than other factors such as efficiency. This was the reasoning behind their research in to the price transmission of milk within the Portuguese market. They found that when the price of the retailer changes the price paid to the producer did not. This suggests that in Portugal it is not the price that is causing hardship on farms and therefore theory that efficiency is to blame for poor milk price return that Steffen and Spiller (2013) proposed, seems feasible. Bor et al (2014) conducted research in a similar manor to de Fátima Oliveira et al (2014) but for Turkey instead of Portugal. The conclusions contrasted as Bor et al (2014) found that large retailers in Turkey act quickly when the input prices of milk increase but they are slower to react when the inputs decrease. This implies that in Turkey large retailers hold all the power shown by the asymmetric price transmission. It also means the retailers control the producer prices and consumer prices, which is the opposite to the Portuguese milk market.

The differences between price transmissions across countries are expected because of the individual markets within the country. Bakucs et al (2014) found that policies, governance, laws, economies and power all bare an effect on a countries agricultural markets. This means that the differences across countries, even though evaluating the same product, are normal. Due to these differences occurring horizontally across countries much research starts by looking vertically initially.

The Gap

The need to look at the long run relationship of the price of milk between the producer and the consumer is more necessary in the UK due to the issues facing many dairy farmers. The 2003 CAP reform changed how subsidies were distributed to milk producers and there is little research in to the effects of this reform on the price of milk. In addition to this the UK has voted to leave the EU so now is an important time for the domestic milk market as the UK will be creating it's own agricultural policies. If British dairy farmers continue to lose out on price then it could have huge consequences on the whole milk industry. Dairy producers are going out of business and they are blaming it on powerful monopoly retailers for driving prices down and therefore it is necessary to assess how true these claims are.

A lack of studies within the UK milk market means there is a need to create foundations which will be useful for policy makers, retailers and producers when moving forwards. In addition, there is significantly more research conducted on the milk markets within foreign countries, which gives them a

competitive advantage over the UK. The varied and mixed results found from other countries in previous literature means there is a big gap for research within the UK.

Research indicates there was a change in the milk market in 1994 when the MMB disbanded. There is a need to see if this is highlighted as a structural break and if it had any benefits to either party. Other studies researching the price transmission of milk have not considered breaks, which further confirms the need for the research to be conducted. The collection and availability of 'big data' means an appropriate data range is available which has been a limitation of previous studies.

METHODOLOGY

Research Title

The Price Transmission between producers and retailers within the UK milk market.

Research Objectives

1. Establish whether a long run relationship exists between producer and retailer milk prices.
2. Investigate the direction of causality between producer and retailer milk prices.
3. Investigate the effects of structural breaks within producer and retailer milk prices.

Data

Qualitative data is descriptive data, which can be collected via interviews, surveys or by using secondary data. The data is valuable for giving insight and explanation when conducting research. Many previous studies have successfully used qualitative data to provide great depth and reasoning to endorse their analysis. However qualitative data is not suitable for the econometric tests being used when analysising the price transmission of milk. Limitations of qualitative data are that it is hard to interpret and it is not easy to gather data over a large time scale (Silverman, 2011). These limitations rule out using qualitative data in this research.

This research will benefit from using quantitative data, as this is suitable for the econometric tests, which will be used to examine vertical price transmission. Using quantitative data will mean objective results will be obtained. This will give a definitive answer to the research question proposed. In addition it will be possible to acquire a large range of data, which will be important for this research. Quantitative data however, does not give the level of insight and detail which qualitative data does, which is a limitation (Silverman, 2011).

Primary data is collected first hand, which has the advantage of being tailored and personalised to exactly what is required. Collecting primary data is time consuming, which is a limitation of this research. Primary data is often expensive to collect and usually the results have to be manipulated to make the data usable, which can be time intensive. If the data is collected first hand then the researcher can be sure it is trustworthy or can add variables when collecting the data to make it adhere to features of the methodology. It is difficult to obtain a significant amount of observations in order to collect a suitable amount of data (Saunders, 2011). It will not be possible to collect a large range of time series data and because it is already available primary data is not suitable for this research.

The benefits of conducting the analysis with secondary data are that it is easy to obtain a large amount of reliable prices for both the consumer and producer (Saunders, 2011). In addition to this with the time constraints of this research, using secondary is the only viable way to gather the range of data required. The data needed is readily available and is to be sourced from the Office for National Statistics, (2016) which is a trusted and accurate resource for secondary data. The milk prices will be collected for a range of 18 years, which is a sufficient length of time to be able to analyse the long run relationship.

Time series data is discrete-time data, which will be used to give monthly increments from 1988 to 2016. The advantages of using time series data is that it allows a comparison of two variables at predetermined time intervals and therefore it is possible to see any correlations (Adams *et al*., 2014). An alternative would be panel data, which is data, which spans space as well as time. An advantage of panel data is that by combining two dimensions the data has more variation and more degrees of freedom (Saunders, 2011). However for this specific research panel data is harder to obtain and because the only variable we require are the retailer prices and the producer prices, time series data will be used.

Testing for Non-stationary data

The first step will be to check the data is stationary, which proves whether data is reliable and valid. This will be done by checking the data has unit roots, for both of the variables. The tests for this are the PP (1997) unit root test and the ADF (1979) unit root test. The tests will help establish if there is a trend in the data or whether there are any extreme values. The reason for using two tests is so that we can be absolutely sure the data is valid and reliable. Previous studies have used only one of these tests, which can raise questions over the quality of their data. DeJong *et al* (1992) argued that the PP test had less power in practice than the ADF test; therefore it is necessary to conduct both. Nonstationary variables mean that there could be statistical issues, like spurious regression or non-sense regression, when analysing a time-series (Cuthbertson and Nitzsche, 2005). This would mean that further statistical interpretation may seem in unity with theory, however the results are not valid and not reliable (Greene, 2012). For this reason it is

vital to firstly prove stationarity. Stationary time series' can be described as having a constant mean, constant variance and constant autocovariances for each given lag (Brooks, 2014). Using Eviews econometrics software it is possible to conduct both the PP test and ADF tests for both the retailer prices and the producer prices to gain instant results (Griffiths *et al.,* 2012). Firstly the data will be tested in level on Eviews, if the variables are nonstationary then the data will be tested for the first difference (Griffiths *et al.,* 2012). In addition it will be important to run the unit root test with breaks, which are shocks within the data. This will confirm that the data is stationary even with the shocks included, which enhances the reliability. It will only be possible to move on to the cointegration tests once it is proved the data is stationary (Maddala and Lahiri, 2009).

Bai-Perron

Bai and Perron (2003) investigated structural change models for a range of different elements including the techniques used to select the quantity of breaks, the consistency of break dates and the tests involved in identifying structural changes. The Bai-Perron test can find multiple structural breaks using a bivariate analysis of a relationship. This will give an indication of whether there are structural breaks that occur as a result of the relationship between retailer and producer prices (Bai and Perron, 2003). It will also give up to 5 separate breaks, while other additional tests concerning breaks in the relationships can only show up to two breaks. This is a benefit when using such a large time series of data.

Co-integration

When it is proved that the variables are stationary then the second test will be to check if the two variables have a long run relationship. The initial analysis of cointegration is to investigate whether it actually exists within the data. The test to examine this is called Johansen (1988) and it tests for long run relationships regardless of breaks or shocks, which may occur within the data (Greene, 2012).

Johansen (1988) test starts with the VAR model:

$$\boldsymbol{Y_t = \mu + A_1 Y_{t-1} + A_2 Y_{t-2} + \cdots + A_p Y_{t-p} + \varepsilon_t} \qquad (1)$$

In equation (1) Y_t simultaneously represents both the variables which are integrated in order I(1), producer prices and retailer prices.

The VECM is then created:

$$\boldsymbol{\Delta Y_t = \mu + \Gamma_1 \Delta Y_{t-1} + \Gamma_2 \Delta Y_{t-2} + \cdots + \Gamma_{p-1} \Delta Y_{t-p+1} - \Pi Y_{t-1} + \varepsilon_t}, \quad (2)$$

where:

$\boldsymbol{\Gamma_i = -I + A_1 + A_2 + \cdots + A_i}$ is the matrix for each differenced lag.

For $\boldsymbol{i = 1, 2, \ldots, k-1}$ and $\boldsymbol{\Pi = I - A_1 + A_2 + \cdots + A_k}$

Johansen (1988) uses two key statistics for testing for cointegration, the trace statistic and the maximum eigenvalue statistic. The likelihood ratio tests used to acquire the statistics are:

$$\boldsymbol{Trace\ Statistic = -T\sum_{i=r+1}^{p=2} \ln(1-\hat{\lambda})} \quad (3)$$

$$\boldsymbol{Maximum\ Eigenvalue\ Statistic = -Tln(1-\hat{\lambda}_{r+1})} \quad (4)$$

For equation (3) the null hypothesis tested is that there are at most r cointegrating vectors present. This means the number of cointegrating vectors is ≤ r, when r equal to 0 or equal to 1. For both values of r the null hypothesis is examined against the general alternative hypothesis.

For equation (4) the null hypothesis of r = 0 is tested against the alternative hypothesis of r = 1, then the null hypothesis of r = 1 is tested against the alternative hypothesis of r = 2.

If Johansens (1988) test shows one cointegrating vector it means there is a long run relationship between the retailer prices and the producer prices and that one mutual trend is causing the comovement of the two price variables (Chang *et al.*, 2004). The Johansen test can then be conducted with breaks, which ensures that spikes or shocks within the data are not affecting the cointegration.

Engle-Granger Cointegration

Engle-Granger (1987) is one of the most widely used and reputable cointegration tests (Maddala and Lahiri, 2009). Engle and Granger (1987) stated that after proving both variables (retailer prices and producer prices) are stationary in first levels I(1) we can estimate the cointegration regression by OLS.

$$\mathbf{y_t = C + \alpha x_t + e_t} \quad (5)$$

After identifying the residuals seen in equation (5), the second step is to examine them through a unit root test. This is done by using the PP (2003) test, and if the residuals are stationary then it can be concluded that there is a long run relationship between retailer prices and producer prices.

Error Correction Model

Cointegration indicates the presence of an ECM. This model establishes how long it takes for the variables to return to a new equilibrium after a shock has occurred (Maddala and Lahiri, 2009). This is used to understand the

speed of recovery, which will provide further understanding about the relationship between the two variables. Additionally, it will enable suggestions to be made on how to improve future policies.

Granger Causality

Once the long run relationship is established it is necessary to check the relationship in the short run (up to 5 years), as it may not yield the same results as the long run relationship. The Granger, (1969) causality test will examine the short run relationship and test if there is:

- Unidirectional causality - the price of the producer affects the price of the consumer.
- Unidirectional causality - the price of the consumer affects the price of the producer.
- Bilateral causality - both the price of the producer and the price of the consumer affect each other.
- Independence – no relationship between the price of the producer and the price of the retailer.

This will establish the direction of causality, which is necessary in this research to understand which variable, retailer or producer price, is having an effect on the other. Grasping this causality will enhance the ability to make future suggestions on the milk market.

Momentum Threshold Autoregressive

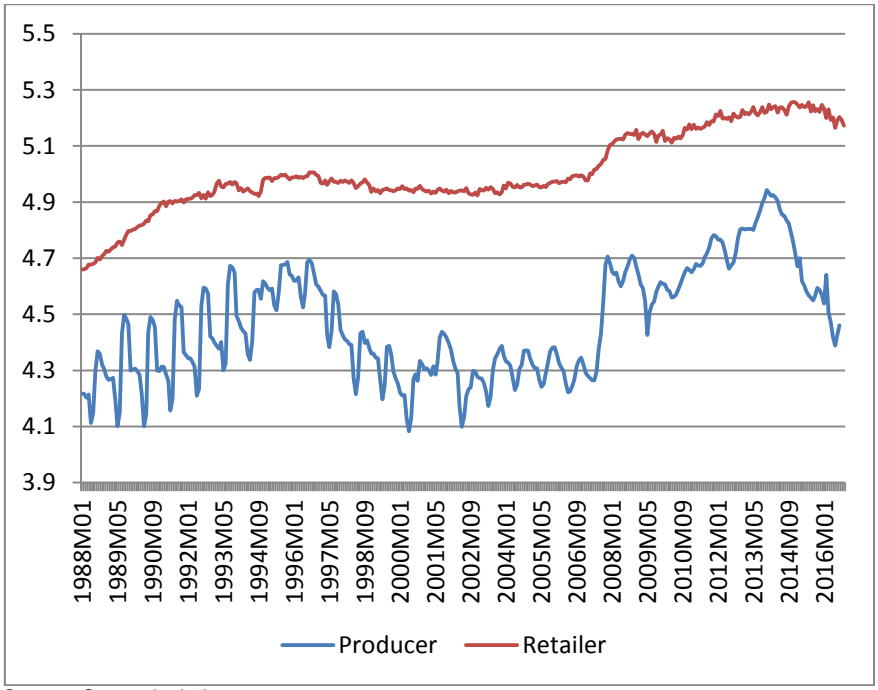
Enders and Granger (1998) and Enders and Siklos (2001) developed the M-TAR model, which tests for asymmetries. The MTAR model is given by equation (6).

$$\Delta\mu_t = I_t p_1 \Delta\mu_{t-1} + (1 - I_t) p_2 \Delta\mu_{t-1} + \sum_{j=1}^{p-1} \gamma i \Delta\mu_{t-j} + \varepsilon_t \qquad (6)$$

p_1 and p_2 are the coefficients which signify the different speeds of adjustment when there is a divergence from the long run relationship (equilibrium). We test for the null hypothesis of no cointegration by using the equation p1=p2=0 in an F-test. The critical values come from Enders and Siklos, (2001). If a cointegration relationship exists then we apply an F-test to p1= p2 with the null hypothesis of symmetry to determine whether asymmetries exist.

Empirical Data

Figure 1: Natural Logarithms of the Producer and Retailer Prices, UK milk, 1988 – 2016



Source: Own calculations.

From observing Figure 1 it is expected that a long run relationship exists between producers prices (LPRI) and retailers (LRPI). It is evident that a correlation exists between the two variables however it is unknown whether there is any causality.

It is also possible to see shifts and spikes within figure 1. A notable detail for the producer price is the seasonal price changes for, which follow a similar pattern each year, whereas the retailer prices remain more stable. A significant looking period for the retailer includes early 2008 where prices increase dramatically. This may be explained by the low levels of milk supply during this time causing retailer prices to increase (Dairy Co. 2009). A noteworthy time frame for the producer prices emerges from 2014-2016, where prices show the biggest decrease. These factors and dates will be considered within the results.

EMPIRICAL RESULTS AND DISCUSSION

Unit Root Tests

Table 1: Unit Root Test Augmented Dickey-Fuller

Price Variable	t -statistic (levels)	P-Value (levels)	t – statistic (1st differences)	P – Value (1st difference)

Producer	-2.03	0.09	-2.97**	0.04
Retailer	-2.66	0.08	-25.23***	0.00

Test Critical Values:
***1% = -3.45
**5% = -2.87
*10% = -2.57

Source: Own calculations.

Table 2: Unit Root Test Phillips Perron

Price Variable	**t - statistic (levels)**	**P-Value (levels)**	**t – statistic (1st differences)**	**P – Value (1st difference)**
Producer	-2.71	0.07	-14.91***	0.00
Retailer	-2.49	0.12	-24.85***	0.00

Test Critical Values:
***1% = -3.45
**5% = -2.87
*10% = -2.57

Source: Own calculations.

The ADF and PP test for stationarity is applied to the retailer and producer price variables to determine the order of integration. The test results displayed in table 1 and table 2 suggest that both variables are non-stationary processes during levels for both the ADF and PP tests, as the t-statistics are greater than the 5% test critical values and the p-values are greater than 0.05. However, from table 1 and 2 it is evident that when converted to 1st difference they become stationary processes. The variables now can be labeled as integrated processes of order one, I(1). This means co-integration tests can now be applied to the variables.

The unit root tests in tables 1 and 2 have shown that the variables without breaks are I(1). Breaks will show shocks in the retailer and producer prices. If breaks are not included the unit root tests may produce misleading results so now it is necessary to perform the same tests, but taking in to consideration structural breaks.

Table 3: Unit Root Augmented Dickey-Fuller With Breaks

Price Variable	**Break Date**	**t – statistic (1st difference)**
Producer	1994	-4.67**

Retailer	1994	-26.27***

Test Critical Values: ***1% = -4.95
**5% = -4.44
*10% = -4.19
Source: Own calculations.

Table 3 displays the results for unit root test with breaks which found both price variables are I(1) including a break in 1994 for both the retailer and producers prices. Since the ADF t – statistic of -4.67 for the producer is less than the critical value of -4.44 at a 5% level of significance, with a probability of 0.027 we can deduce that the producer prices are stationary on the 1st difference and therefore can be described as I(1). As the t – statistic of -26.27 for the retailer is less than the critical value of -4.95 at a 1% level of significance it can be concluded that the retailer prices are stationary on the first difference and are also I(1).

The break in 1994 may coincide with the disbanding of the MMB, which was mentioned previously. This was the only link between the producers and the retailers and once it was gone there was no formal link between them. This allowed large monopolies (retailers) to take advantage of there position and put pressure downstream on to the producers (Brigstoke, 2004). Finding this break confirms the 1994 disbanding of the MMB may have caused a shock in the prices of both the retailer and the producer.

Bai-Perron Test

The previous test performed with breaks was univariate, meaning that it expressed shocks individually without the influence of the other variable.

Table 4: Bau-Perron Test Results

Variable	**Break Date Estimate**
Pr = Re	1992, 1998, 2003, 2008 and 2012.

Source: Own calculations.

The test results presented in table 4 indicates 5 structural breaks for the relationship between retailer and producer prices (bivariate). The breaks in 1992 and 2003 may be explained by the CAP reforms. However the 2003 CAP reform did not have the adverse affect initially feared and milk prices did not increase as was anticipated (Burrell, 2004). In 2008 as previously discussed, there was a shortage in supply of milk causing prices to increase (Dairy Co, 2009).

Co-integration

Next the Johansen cointegration approach[1] is applied without structural breaks to test for a long run relationship between the two variables. Since there are two variables, one relationship should exist between them in the long run.

Table 5: Johansen Cointegration Without Breaks

Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Probability
None	27.96**	20.26	0.004
At most 1	8.28	9.16	0.073

Note: ** indicates rejection of the null hypothesis at the 5% level of significance.
Source: Own calculations.

The null hypothesis of the test states that there is no relationship between the examined variables, therefore no cointegration (H0: No relationship). The alternative hypothesis shows the existence of a relationship, thus it confirms the fact that cointegration exists (H1 : There is a relationship). This is indicated by the number of CE's within the first column.

The Trace statistic 27.96 is greater than the critical value 20.26, with a probability below 0.05 so the null hypothesis H0 is rejected. Therefore the alternative hypothesis H1 is accepted and at least one cointegration vector exists.

The next pair of hypotheses state that the null hypotheses is at most 1 cointegrating vector appears between the examined variables (H0: One relationship), while the alternative is that there are more than one cointegrating equations (H1 : More than one relationship). Since the trace statistic 8.28 is less than the critical value 9.16 and the probability 0.073 is above 0.05, we reject the alternative hypothesis and accept the null. Thus, there is a cointegration between producer and retailer prices and one cointegrating vector between them as expected.

The break dates obtained from Bai-Perron test were not significant and did not have a great influence on the relationship between the two variables. Since the only significant break date found for both variables is 1994 it is now included endogenously in Johansen's cointegration approach to test if it alters the results of cointegration.

Table 6: Johansen Cointegration test with Breaks

[1] All the equations satisfy all the statistical assumptions required for the Johanshen approach and we can apply cointegration analysis. We deployed the diagnostic tests for heteroskedasticity, normality and autocorrelation in all the equations.

Hypothesized No. of CE(s)	Trace Statistic	0.05 Critical Value	Probability
None	29.35**	24.28	0.011
At most 1	12.05	12.32	0.055
At most 2	0.63	4.13	0.487

Note: ** indicates rejection of the null hypothesis at the 5% level of significance.
Source: Own calculations.

The null hypothesis of this test again states that there is no relationship between the examined variables, therefore no cointegration (H_0: No relationship). The alternative hypothesis shows the existence of a relationship, thus it confirms the fact that cointegration exists (H_1 : There is a relationship). From table 6, the trace statistic 29.35 is greater than the critical value 24.28, with a probability below 0.05 so the null hypothesis H_0 is rejected. Therefore the alternative hypothesis H_1 is accepted and at least one cointegration vector exists, similarly to when the test was conducted without breaks. The next pair of hypotheses state the null hypothesis is that at most one cointegrating vector appears between the examined variables (H_0: One relationship), while the alternative is that there are more than one cointegrating equations (H_1 : More than one relationships). Looking at table 6, the trace statistic 12.02 is less than the critical value 12.32 with a probability above 0.05 and therefore we reject the alternative and accept the null hypothesis. So, one cointegrating vector-equation exists. From performing Johansen's cointegration test including breaks we can conclude that cointegration exists between the examined variables and the break date did not affect the results.

Next the Engle-Grangle test for cointegration is performed which is a robust test that investigates if a long run relationship exists between two variables. It is a two-step process which involves firstly performing an ordinary least square, including the detected break in 1994, and then we examine the residuals in terms of stationarity. Residuals have to be integrated of order zero, which means stationary in levels. Thus, residuals will move around the mean and will not affect the reliability of our results, depicting a stable pattern. Since the residuals obtained are integrated of order zero, cointegration can be supported.

Table 7: Engle-Granger cointegration (First step)

Variable	Coefficient	t - statistic	Probability
LRPI MILK	1.32	21.65	0.00
D1994	-0.13	-6.68	0.00

Constant	-2.02	-6.85	0.00

Source: Own calculations.

Table 7 shows that the retailer prices and the break date included of 1994 are significant since the p–value is less than 0.05 and t–statistic is greater than |1.7|.

Results derived from table 7 express the linear equation depicted below (8), which represent the long run relation between producer-retailer milk prices.

$$\mathbf{y_t = C + \alpha x_t + e_t} \qquad \textbf{(7)}$$

$$\underset{\quad(21.65)}{\mathbf{LnProducer = -2.02 + 1.32 * LnRetailer}} \underset{(-6.68)}{\mathbf{- 0.13D1994}} \qquad \textbf{(8)}$$

This means that if the retailer price increases by 1 unit then it would be expected that the producer price would increase by 1.32 units. This explains the most recent increases in producer prices, which have come as a result of pressure on the retailers from the public (Horne, 2017). A coefficient of 1.32, which is greater than 1 means an imperfect market structure exists. This denotes that there is oligopsony power on the demand side (milk retailers) (Lajdová and Bielik, 2013). This demonstrates that milk retailers have greater power than milk producers.

Also, the 1994 break seems to affect in a negative way on the producer prices, leading to a decrease by 0.13 units or 0.13%. As previously discussed this may be attributed to the disbanding of the MMB, which is known to have caused price instability in a negative manor.

The second step of the Engle–Granger procedure is to examine the residuals through a unit root test.

Table 8: Phillips Perron unit root estimates

Residuals	**t – statistic**	**Probability**
U	-19.49***	0.00

Test Critical Values:
***1% = -3.45
**5% = -2.87
*10% = -2.57

Source: Own calculations.

Table 8 shows results from the Phillips- Perron unit root test and indicates that the residuals are stationary in levels and thus integrated of order zero I(0).

From the Johanson and Engle-Granger tests above, we can conclude that there is a long run relationship between the retailer and producer prices. This is supported by the literature from the rest of Europe where it is presented that long run relationships exist between retailer and producer milk prices in many countries. This also means that the six factors Conforti (2014) identified, as affecters of price transmission are likely to also have an influence on the UK milk price transmission.

Error Correction Model

Since cointegration exists in the long run the next step is to investigate how quickly the prices return to a steady state and thus to the new equilibrium when a shock occurs in the independent variable - retailer price.

Table 9: Error Correction Term Estimates

Dependent variable	ECT	t – statistic
Producer prices	-0.099	-4.12

Source: Own calculations.

The ECT has to be negative since it shows the return to the long run relationship, and also has to be statistically significant. Table 9 shows that when the producer price is the dependent the ECT is negative (-0.099) and is significant because -4.12 it is greater than |1.7|. This shows that if a shock happens to the retailer price and both prices move apart from the long run relationship they return to a new equilibrium at a rate of (-0.099) 10% per month. This means it would take up to 10 months to fully recover back to a new equilibrium. This slow recovery may be explained by the dominance of large retailers, in which four are responsible for 40% of the milk sales, and the lack of power of the producers (Dairy Co, 2011). These slow recovery results are consistent with the findings of Acosta and Valdés, (2014). There explanation for low price transmission was attributed to market power concentration, the presence of perishable goods and different levels of price elasticity at different market levels (Acosta and Valdés, 2014). This confirms the view of many small UK producers who have been blaming retailers for their demise. Furthermore these results are consistent with Serra and Goodwin, (2002) who found that milk producer prices appear more elastic to shocks which explains why it takes a long time for prices to reach a new equilibrium.

Granger Causality

The Granger causality test enables us to examine whether there is a short run relationship in the examined variables as well as the direction of this causality.

Table 10: Granger causality test estimates

Null Hypothesis	Critical Value – F stat	F – Statistic
LRPI does not Granger cause LPRI	3.00	2.28
LPRI does not Granger cause LRPI		3.16

Source: Own calculations.

The first case has a null hypothesis that LRPI does not Granger cause LPRI (H_0: The retailer price does not effect the producer price) and an alternative hypothesis suggesting that LRPI does Granger cause LPRI (H_1 : The retailer price does effect the producer price). Table 10 shows the F – Statistic and the critical value. Since the F – Statistic (2.28) is less than the critical value (3.00) we reject the null hypothesis and accept the alternative. Therefore there is a short run relationship from the LRPI to LPRI and the retailer price does effect the producer price.

In the second case the null hypothesis suggests that LPRI does not Granger cause LRPI (H_0: The producer price does not effect the retailer price) and the alternative hypothesis states that LPRI does Granger cause LRPI (H_1 : The producer price does effect the retailer price). Since the F – Statistic (3.16) is greater than the critical value (3.00) we accept the null hypothesis and reject the alternative hypothesis. Thus a short run relationship with direction from the producer to the retailer does not exist and therefore the producer price does not affect the retailer price. This was also supported by the results from the ECM but on a long run basis. The results obtained from the ECM showed no influence from the producer to the retailer, thus a long run relationship does not exist in this direction.

Asymmetry Analysis

The M-TAR test is used to identify whether asymmetry exists.

Table 11: Momentum-Threshold Autoregressive estimates

Dep./ Indep. Variable	T	p_1	p_2	$p_1 = p_2 = 0$	$p_1 = p_2$	K
PRODUCER/ RETAILER	0.00	-0.031 (0.036)	-0.047 (0.041)	0.817	0.1204	10

RETAILER/ PRODUCER	0.00	-0.004 (0.033)	-0.046 (0.033)	0.988	0.9726	10

Source: Own calculations.

T represents the threshold value,
K represents the lag length, SE are in parenthesis,
ρ1= ρ2= 0 is the null hypothesis of no co-integration, the critical values are obtained from Enders and Siklos (2001) p.172
ρ1= ρ2 is the null hypothesis of symmetry, critical value for 5%: PR/RET: 3.00, RET/PR: 2.67.

Table 11 represents MTAR estimates with a threshold equal to zero. Thus, p1 indicates values above the threshold – positive and p2 shows prices below the threshold-negative.

For the relation of the producer/retailer, we have a p1 value where -0.031 is the coefficient and in brackets (0.036) is the standard error. p1 has to be negative and statistically significant. Coefficient/ standard error= t-statistic, so the t-stat for p1 is -0.031/0.036=0.861 which is less than |1.7| and hence, not significant. The t-stat for p2 is -0.047/0.041=-1.146 which is less than |1.7| meaning it is not significant.

The p1=p2=0 represents the result for cointegration under the asymmetry. From table 11 we get an F-statistic of 0.817 for the F-joint (appendix 1). The null hypothesis is no cointegration (H_0: There is no cointegration under asymmetry) and the alternative that there is a cointegration (H_1 : There is cointegration under asymmetry). We compare the 0.817 with the critical value provided in the results table 5.837 (see appendix 1). If the F-stat is greater than the critical value, we reject the null and accept the alternative. Here, 0.817 is less than 5.837 so we accept the null hypothesis and reject the alternative hypothesis, H_0: There is no cointegration under asymmetry.

The p1=p2 column in table 11 represents the result for asymmetry, labelled as F-equals in appendix 1. The null hypothesis is symmetry (H_0: Symmetry exists) and the alternative is asymmetry (H_1 : Asymmetry exists). Again, we compare the F-stat 0.120 with the critical value 3.00. If the F-stat exceeds the critical value, there is asymmetry. So, we reject the null and accept the alternative. Here, the F-stat 0.12 is less than the critical value 3.00 and therefore we accept the null and reject the alternative meaning there is symmetry.

For the retailer/producer we use the same method and find the same result meaning there is symmetry. These results are consistent with findings of Serra and Goodwin, (2002). However, it contrasts with the findings of Kinnucan and Forker (1987) who found the presence of asymmetric vertical price transmission in the United States milk market.

Since we found that asymmetry does not exist, it means that positive and negative shocks are transmitted in the long run from the retailer to the producer with the same intensity. As we found the same for both pairs it also means that the magnitude is the same and they have the same effect

whether an increase or a decrease in the prices occurs. This shows also the dependence of the two stakeholders and the fact that shocks are fully transmitted between them in the point that there is no difference to the impact caused no matter if the shock is positive (increase in milk price) or negative (decrease in milk price). Therefore, returning to the Engle-Granger model, if the retailer prices decrease by 1 unit then it would be anticipated that the producer price would fall by 1.32 units. This backs up previous literature, which found that large retailers were driving down milk prices between 2014 and 2016 causing producer prices to fall (Dairy Co, 2011).

CONCLUSION

The results of the analysis show a long run cointegration relationship exists between the producer prices and the retailer prices. When the significant break is included, the same long run cointegration relationship exists. This means that both variables progress in association with one another. Furthermore the causality runs from the retailer to the producer. This means that when retailer prices change it effects the producer prices. However when the producer prices change, it does not transmit to the retailer prices. With producer costs increasing and them not receiving a fair price transmission, which reflects retailer prices, we can conclude that this is why many dairy producers are struggling to within the UK.

The UK milk market's price transmission results are similar to the results Bakucs et al, (2012) found within Poland's milk market, which we considered previously. In Poland the direction of causality was from retailer to producer, which was explained by the power of the producers. These results are parallel to the UK results and many other studies that have been considered, which further confirm our findings, that retailers in the UK are causing price issues for producers.

The results from the ECM suggest it takes at least 10 months for the price variables to converge to a new equilibrium. From this it is possible to conclude that the prices the producers or retailers receive is very slow at reacting when there is a spike in the price. This confirms the view that retailer prices have not been transmitting downstream and giving producers a fair price. It also confirms that the prices within the whole milk market are dictated by the oligopolistic retailers. We can conclude retailers are more concerned about offering low prices to consumers than they are about paying a fair price to producers.

Policy Implications

As previously discussed Steffen and Spiller (2013) found there was a lack of efficiency within dairy producers. From this study we can conclude that a lack of power and trust may be causing producers to be reluctant to invest money in to their operations. This lack of investment may be causing the inefficiencies that Steffen and Spiller, (2013) identified within their research. A policy implication that could solve this is to grant producers a guaranteed

price when negotiating a milk contract, which currently doesn't exist (Dairy Co, 2011). The consequences of this would enable producers to invest and plan for the future knowing what their expected levels of income will be, thus reducing their risk.

Future policies need to protect producers to ensure they receive a fair share of the price transmission. This could be the catalyst for arguing that the MMB or a similar organisation needs to be reintroduced. In the light of the results, policy makers should concentrate their attention on actions that are aimed at decreasing the levels of price transmission from retailers to producers and increasing the levels of price transmission from producers to retailers within the milk market.

Limitations

There are limitations of this study including my lack of experience prior to the research being conducted. The reason this was a limitation is because more valuable time had to be spent understanding the topic and econometric techniques. Overall this did not have much of an affect on the results of the study. The availability of data during the short space of time given to conduct this research means that there is a reliance on the Office for National Statistics for providing reliable statistics. This is a limitation as it is impossible to be sure the data is correct. However because it is a trustworthy source it is unlikely to have had an affect on the results.

Future Research

There are grounds for further research based on this study. Firstly it would be interesting to compare the vertical price transmission results of the UK with other similar European countries such as France, Spain and Germany who also may be effected by Brexit. Secondly this study could provoke an interest in comparing the UK milk prices horizontally with other similar EU countries. For example comparing producer prices and retailer prices independently across boarders.

This research also provides a motive to compare the price asymmetry of milk against other products and for the asymmetry of other products to be considered individually. The desired effect of this would be to use successful policies from other markets to help milk producers and reduce the power of milk retailers.

This project provides the foundations to now consider pairwise analysis for each stage of the dairy supply chain, including wholesalers, producers, retailers and consumers. This would give a better understanding of exactly where prices aren't being transmitted within the milk supply chain.

Once the UK has left the EU and set its own policies future research could be conducted to look at how the new policies set will affect the transmission of milk prices between the producer and retailer.

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APPENDIX

Appendix 1: Momentum-Threshold Autoregressive Results

Endogenous variables:
LPRI_MILK LRPI_MILK

Exogenous variable(s): D1994

Method: Threshold (tau is defined by user)

Lags (determined by data): 10

Date: 04/17/17 Time: 08:45

Sample (adjusted): 1988M12 2016M08

Included observations: 333 after adjustments

Variable	Coefficient	Std. Error
Above Threshold	-0.031363	0.036999
Below Threshold	-0.047905	0.041652
Differenced Residuals(t-1)	0.068873	0.059264
Differenced Residuals(t-2)	-0.252162	0.057668
Differenced Residuals(t-3)	-0.169276	0.056511
Differenced Residuals(t-4)	-0.230380	0.056422
Differenced Residuals(t-5)	-0.132503	0.057111
Differenced Residuals(t-6)	-0.148896	0.057505
Differenced Residuals(t-7)	-0.140517	0.056517
Differenced Residuals(t-8)	-0.286592	0.056056
Differenced Residuals(t-9)	-0.152428	0.054702
Differenced Residuals(t-10)	-0.301796	0.055146

Threshold value (tau):	0.000000	
F-equal:	0.120415	(3.000130)*
T-max value:	-0.847666	(-2.086908)*
F-joint (Phi):	0.817149	(5.837907)*

**Simulated critical values for 5% significance level.*

Number of simulations: 1000

Elapsed simulation time: 0 hours 0 minutes 7 seconds.

Endogenous variables:
LRPI_MILK LPRI_MILK

Exogenous variable(s): D1994

Method: Threshold (tau is defined by user)

Lags (determined by data): 10

Date: 04/17/17 Time: 08:47

Sample (adjusted): 1988M12 2016M08

Included observations: 333 after adjustments

Variable	Coefficient	Std. Error
Above Threshold	-0.004077	0.033532
Below Threshold	-0.046666	0.033308
Differenced Residuals(t-1)	-0.024302	0.058066
Differenced Residuals(t-2)	-0.182190	0.056429
Differenced Residuals(t-3)	-0.218485	0.055454
Differenced Residuals(t-4)	-0.171510	0.056018
Differenced Residuals(t-5)	-0.147449	0.056250

Differenced Residuals(t-6)	-0.129185	0.056582
Differenced Residuals(t-7)	-0.139628	0.056597
Differenced Residuals(t-8)	-0.243472	0.055462
Differenced Residuals(t-9)	-0.164181	0.055214
Differenced Residuals(t-10)	-0.255339	0.056004
Threshold value (tau):	0.000000	
F-equal:	0.972585	(2.676458)*
T-max value:	-0.121588	(-2.163273)*
F-joint (Phi):	0.987639	(6.038325)*

**Simulated critical values for 5% significance level.*

Number of simulations: 1000

Elapsed simulation time: 0 hours 0 minutes 7 seconds.

Source: Own calculations.

COST-BENEFIT ANALYSIS AS THE MOST APPROPRIATE METHOD FOR ESTIMATION OF CORPORATE FINANCIAL SUPPORT TO SPORTS CLUBS

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Abstract

As in the business world where practically every large investment project decision is supposed to undergo a preliminary economic justification procedure, other fields' investment decisions must also be taken into consideration. The sponsoring of sport events or sports clubs all through the year by companies in the private sector is one of such investment decisions. It would be reasonable and justifiable for such investments (financial support to sports clubs) to be assessed from an economic perspective as well. For assessing and measuring such benefits, an appropriate method called the cost-benefit analysis can be used. The purpose of this paper is firstly, to briefly present the theoretical frame of this technique based on a literature review, especially in the field of organizing and funding sports events, and secondly, to apply this cost-benefit analysis empirically to a particular case. A company X and its sports club (they wish to remain anonymous) have been chosen. The data applied in this case is real. For this particular case, the author states two research hypotheses, one regarding the economic justification of investments like sponsoring sports club, and one regarding the usefulness of the cost-benefit analysis as an appropriate tool for such decision making. In the end, the major findings from the empirical case are summarized and some new starting-points for further research in this field are given as well.

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Key Words

Cost benefit analysis; opportunity cost; net present value; social responsibility; sponsoring sports club.

INTRODUCTION

Recently, the media has been, more and more frequently, discussing a topic related to the financing of the organization of sports events at various levels, for example, from a local community supporting the competitions of its sports association (club) to events reaching as far as the Olympics. For the organization of the Olympic Games this year in Rio de Janeiro, the country can expect to pay more than 10 billion euros (SiolNET, 2016).

This raises the question as to whether the funds invested and those that fund such events (matches) are reimbursed and, if so, in what form. What kind of benefits do this funding bring specifically to sponsors, donors, and those who devote their funds to such events in the form of subsidies and loans or even as grants from local communities?

We even have a few examples where the management of a firm was accused of causing material damage to their companies by financing sport. Thus, in a larger business system, there was a change of management, which, together with the owners of the public limited company, even initiated a lawsuit against the former administration for damaging the company due to years of financing (credited) its sports club.

As in the business world where the economic viability of investment decisions is assessed, in other areas where large business systems, in the capacity of carrying out the role of social responsibility, materially support various societies in the fields of sport, culture, art and other activities, it would truly be right and it is fair for sponsors and other stakeholders involved in financing various sports events (competitions) to try in advance to evaluate the effects and the benefits of such investments. Even if they are lower than the costs, it is right that the bearers of such decisions, if these decisions are consciously accepted, are at least roughly familiar with them.

Benefits can be direct and also measurable, but the majority of them are virtually impossible to evaluate. Since we have already mentioned the Olympics, then we can state, at this point, that only the summer Olympics organized in 1984 in Los Angeles, USA, brought profits to the organizers, due to the fact that these games were organized at the available sports facilities and it was not necessary to invest much in the construction of this particular type of infrastructure. What about sports clubs here? Until they advance and fall into the European league, which results in a relatively higher revenue, these clubs can only survive if they have a chief sponsor as the proceeds from tickets sold, sponsorship and donations by smaller organizations and modest grants from the local communities are by no means sufficient to ensure a club's operation and survival.

In theory, the method of cost-benefit analysis (German: Kosten und Nutzen Analyse) is available for estimation and the measurement of such benefits. The purpose of this paper is first to briefly present the theoretical framework of this method on the basis of a review of scientific literature and then use it in the empirical part as a tool and technique for assessing the economic viability of financing the selected sports club by company X. Although the company and its club in this article are not named, their data is real.

In this paper, we will also present the so-called process model of sponsoring companies/organizations of certain sporting events and competitions that have become established in the global sports world. Several authors were involved in the design of this model. In the conclusion, we will summarize the main findings from the case in the empirical part and provide some starting points for further research in this field.

COST-BENEFIT ANALYSIS

A cost-benefit genesis, analysis and purpose

A cost-benefit analysis is a systematic approach to assessing the strengths and weaknesses of various alternatives that satisfy the transactions, activities, or functional requirements of business entities. This is a technique that is used to identify options that provide the best approach to assess the benefits of work, time and cost savings in practice. The cost-benefit analysis is also a systematic process for calculating and comparing the benefits and costs of a project. The cost-benefit relationship is presented graphically in Figure 1.

Broadly speaking, the cost-benefit analysis has two purposes:

- to determine if an investment decision is justified and feasible,
- to provide a basis for the comparison of projects; this includes a comparison of all the expected costs of each option with regard to all the expected benefits to see if the benefits are greater than the costs and by what amount, as shown in Figure 2.

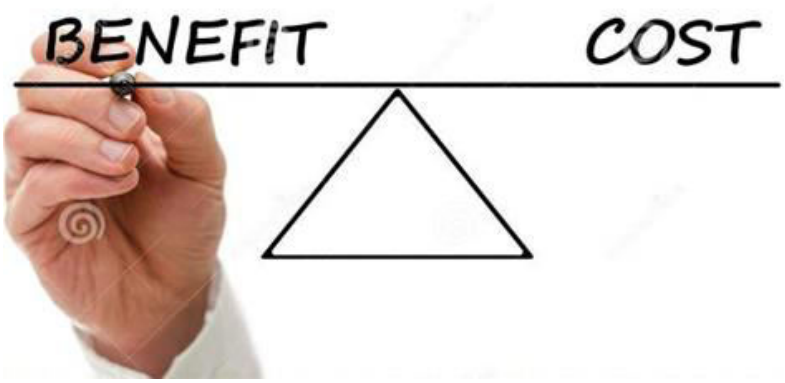
In the cost-benefit analysis, the benefits and costs are expressed in monetary value and are adjusted to the time value of money, so that all flows of benefits and flows of costs are expressed (shown) on a common basis and expressed in terms of the net present value.

Figure 1: Cost-benefit ratio

Source: Wikipedia.

In the cost-benefit analysis, the benefits and costs are expressed in monetary value and are adjusted to the time value of money, so that all flows of benefits and flows of costs are expressed (shown) on a common basis and expressed in terms of the net present value.

Figure 2: Which side will the scale incline towards?

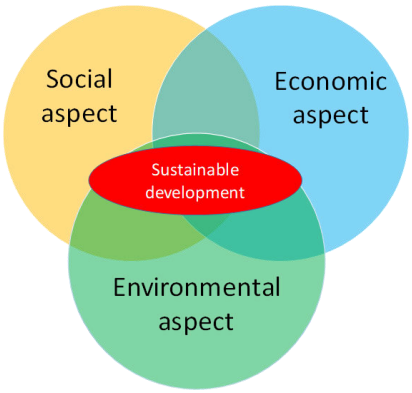


Source: Wikipedia.

The cost-benefit analysis is closely connected to, but a bit different from the cost-effectivness analysis, cost-utility analysis, risk-benefit analysis, economic impact analysis, fiscal impact analysis, and social return on investment analysis. In these analyzes, we often encounter the concept of corporate social responsibility, which focuses on the contribution of companies to the sustainable development of the country, area, and world. Businesses can have a significant impact on the natural and social environment by acting directly or through the use of their products and services. Impact also implies responsibility and consequently the socially responsible operation of the company is also given such importance on the path to sustainability (Vezjak, 2015, 42). A basically sustainable (socially responsible) business involves taking care of the economic, social and environmental dimension of operations. Therefore, we can speak of a triple result of the business, which is illustrated schematically in Figure 3.

The cost-benefit analysis is often used by the state and other organizations in the private business sector to assess the desirability of concrete actions or projects. This is an analysis of the expected balance (balancing) of benefits and costs including alternatives that have not been implemented and the status quo. The cost-benefit analysis seeks to predict if the benefits of a particular policy (action) are greater than the costs and by how much with regard to other alternatives. An accurate cost-benefit analysis principally identifies choices that increase welfare from the point of view of benefits. It should be noted, however, that an analyst using the cost-benefit analysis has to acknowledge that it is very difficult to make a full estimate of all current and future costs and benefits, and while the cost-benefit analysis can offer a good estimate of the best alternative, perfection in terms of a guarantee of economic efficiency and social well-being is not ensured.

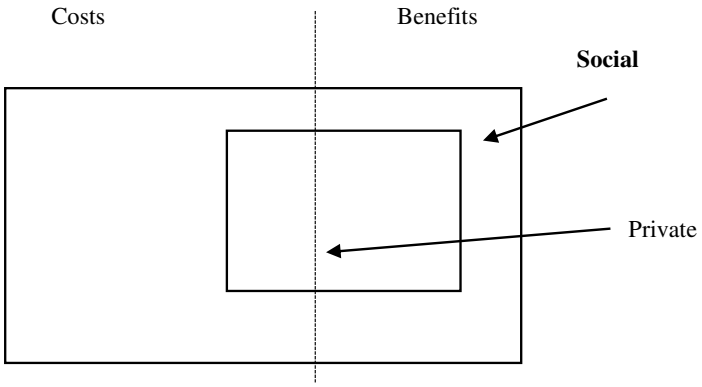
Figure 3: Triple aspect of corporate social responsibility through a cross-section of sustainable development



Source: Adapted by Vezjak (2015).

In the theoretical framework of this paper, let us briefly look at the difference between private (business) costs, benefits and social (general) costs and benefits. This difference has been illustrated by a simple diagram in Figure 4.

Figure 4: Venn diagram showing the display of private (business) and social (general) costs and benefits



Source: Adapted by Dewhurstu (1972).

Although private (business) benefits are greater than private (business) costs, the overall social situation is completely the opposite. If we want to maximize the social benefits in a socioeconomic environment that is subject to free market conditions, which is not a realistic assumption, we ask ourselves how we can achieve this. There is no case that the private business sector would act entirely in the public interest and in line with the legislation, of course. Therefore, the state intervenes (interferes) in different ways. Professor Pigou's solution (1932) is quite simple. If these additional

social costs, called externalities, due to their being outside the private sector, outweigh the social benefits, then the medicine is in the taxation of the private sector. If this theory holds, then the private sector would receive subsidies from the state. All this is, of course, an attempt to maximize social benefits, that is, not by the state interfering with the economy, but by using economic measures (Dewhurst, 1972). However, this already exceeds the purpose of this article.

The cost-benefit analysis includes the following steps:

- indicating alternative projects,
- indicating stakeholders (stakeholders),
- choosing criteria and measuring all cost and benefit elements,
- forecasting the cost and benefit outcome for the selected time period,
- converting all costs and benefits into a common monetary currency,
- using a discount rate,
- calculating the net present value (NPV) of different project options,
- performing a sensitivity analysis,
- taking the recommended choice.

Valuation

The cost-benefit analysis attempts to measure the positive or negative effects of the project, which may include:

- effects for users and stakeholders,
- effects for non-users and non-stakeholders,
- externalities (external damage),
- option value or other social benefits.

A similar breakdown is used in the environmental analysis of the entire economic value. Costs and benefits may vary. The financial costs are supposed to be most thoroughly presented in the cost-benefit analysis due to relatively sufficient market data. The net benefits of a project may include cost savings or public willingness to receive compensation (the public should have the right to benefit from the policy measure taken) to change the welfare resulting in the government action taken. The guiding principle in valuing the benefits is to list all of the categories or parties affected by the intervention (measure, investment decision), which then gives these categories or parties (positive or negative) values, usually expressed in cash.

Reviews and market behavior are often used to assess the policy (measure) related compensation. Those who participate in such reviews as respondents are encouraged not to report on their true preferences and only market behavior does not provide information on important non-market effects on welfare.

One of controversial issues is the valuation of human life, when, for example, we valuate safety measures or medicines that save lives.

Sometimes we can avoid this by using a related technique of cost-efficiency analysis, whereby benefits are expressed in non-monetary units, such as the quality adjusted life-year (QALY). For example, road safety can be measured in life-saving costs without formally calculating the value of life. Such non-monetary criteria have a limited applicability for valuating policies (measures) with quite different outcomes. In addition, many other benefits can arise from such policies and measures, such as the cost of a saved life that can lead to a much different ranking of alternatives as is the case in a traditional cost-benefit analysis.

As another example of the cost-efficiency analysis, we can provide an example related to the valuation of human health. With efficiency, we understand how well resources are used / exploited to achieve the intended result. Efficiency always improves when the resources used to generate a given result are diminished. Although economists usually (typically) treat efficacy and quality as two separate concepts, many arguments are now being made defending the idea that their separation in health is not easy or even sensible. As inefficient medical treatment drains more resources than necessary, it is wasteful and spendthrift. Treatment which is wasteful is deficient, incomplete and therefore of a lower quality regardless of how good it is in other respects or, as the Donabedian (1988) says, "wasteful care is either directly harmful to health or is harmful by displacing more useful care". From the point of view of the definition of the quality of treatment, the importance of responding to patient preferences in terms of treatment quality has become increasingly recognized today, for example, by Donabedian (2003) under the heading "acceptability" and by the Institute of Health as "respect for patient's values, preferences and expressed needs" (IOM 2001). The cost-efficiency of a specific health service, for example, surgical procedures, can be determined by how much benefit this treatment brings at a certain extent of expenditure, which is typically measured in improvements in the health status. In general, when the amounts spent on the provision of services under certain conditions increase, the yields begin to decline; every additional unit of expenditure brings a smaller amount of benefits until we reach a point where no further benefit is gained by increasing the inputs for treatment (Donabedian, Wheeler and Wyszewianski, 1982). The idea that resources should be used up to the extent that they continue to bring benefits was adopted as a "maximalist aspect" of the quality of treatment. In this respect, the elements can be consumed as long as there are benefits, regardless of their size. As an alternative to this maximalist idea, the idea of an "optimal aspect" developed, which states that spending should stop before the point where additional benefits are too small to be worth the extra cost (Donabedian, 1988).

Another controversy that we encounter in the cost-benefit analysis is the valuation of the environment, which, in the 21st century, is typically rated by valuating ecosystem services for humans such as air and water pollution. Money values can also be attributed to other immeasurable (intangible) effects, such as brand names, market penetration or the introduction of a long-term strategy of a company.

Time dimension and discounting

The cost-benefit analysis attempts to classify all relevant costs and benefits on a common temporal footing using the time value of money calculations. This is done by converting the future expected streams of costs and benefits into a present value amount using a discount rate.

The choice of a discount rate is subjective. Lower discount rates valuate future flows in the same way as current ones. Higher discount rates (market rates of return) reflect the fact that we value the money we get today more than the money we receive tomorrow. The choice makes a big difference in the valuation of interventions (measures, investment decisions) with long-term effects. One of the topics is the equity premium puzzle, in which long-term returns on equity can be much larger than they should be. If so, then market rates of return should not be used to determine the discount rate, as they would have the effect of underestimating the distant future. The above-mentioned puzzle concerning the amount of the equity premium refers to the phenomenon that the observed return on equity over the past century has been much higher than the return on government bonds (Mehra and Prescott, 1985). The procedure for calculating the risk premium and the selection of data for its calculation are very subjective and it is generally assumed that this premium moves between 3 and 7% in the long run. Dimson and researchers (2006) calculated a premium of 3 - 3.5% based on the geometric mean for the global capital market in the period from 1900 to 2005.

PRESENTATION OF THE PROCESS MODEL OF SPONSORING SPORTS CLUBS

In this chapter, we will first summarize the schematic representation of all the possible sources of funding for sports clubs provided by Allen and the researchers (2010). The acquisition of financial resources, shown in Figure 5, also includes crediting sports clubs, an example of the X Company and its club detailed in the empirical part of this paper. In Figure 6 we will present a process model of sponsoring sporting events, which is widely accepted and established in the world.

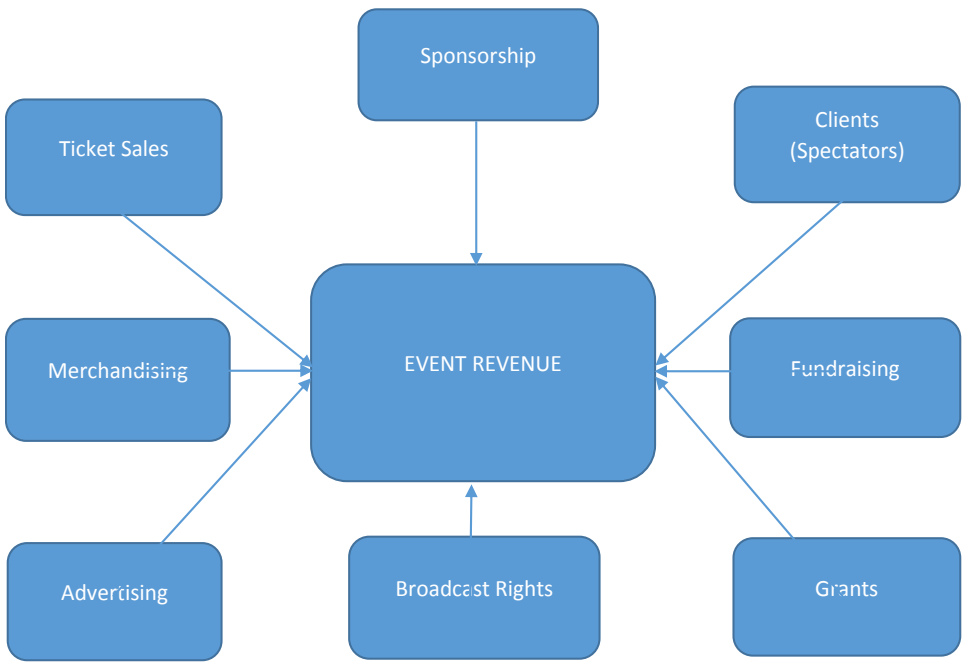
In theory, there have been quite a few attempts on how to valuate corporate sponsorships (Fortunato, 2013). The return on investment (ROI) is only one criterion. Some authors (Maestas, 2009; O'Reilly and Madill, 2009; Savary, 2008; Watt, 2010) advocate sponsorship valuations with the Return on Objective (Shorter ROO) indicator. According to them, ROO serves as an alternative to the traditional ROI (return on investment) and tries to measure the contribution with the number of units sold by a particular marketing program. Instead of exerting pressure on marketers to focus on immediate sales as a benchmark, ROO allows them to count purchasers at each stage of the sales process (Maestas et al., 2009). Savary (2008) explains that this approach, ROO measurement, valuates the shift of customers from the mere knowledge of the trademark to the concrete use of it, or even to advocating

and promoting the trademark to others. Similarly Maestas (2009) identifies individual elements of the ROO indicator. These elements are often measurable and include, for example, awareness of the seller's trademark, customer satisfaction and customer intentions. Maestas also points out that companies should carry out a survey before accepting a sponsorship decision in order to create baseline values for measurement and later for comparing impact during sponsorship.

USING THE COST-BENEFIT ANALYSIS ON A PRACTICAL CASE

In this paper, we have chosen a concrete example of a large joint stock company in the private sector, which wishes to remain anonymous. We will refer to it as the X Company and with other subsidiaries, it forms the X business system. At the beginning of the last decade, the company founded a sports club, the name of which we will not mention in this article. We will simply refer to it as the club. Let us state that it is a sporting genre that relates to a team ball game. As a timeframe, we define the period as being from 2003 to 2011. During this period, the X Company financially supported its club in the form of the approval of short-term loans, and later, after 2011, also in the form of donations, but the latter are not subject to discussion in this paper.

Figure 5: Sources of revenue from the performance of sports events (matches)



Source: Adapted from Allen et al. (2010).

Using the cost-benefit analysis, in this article, we tried to determine in the selected case, whether the provision of X Company's financial assistance to its sports club is economically justified for the X Company, whether X Company has benefited from this financial support and whether those benefits for the X Company were higher than the costs, or given short-term loans to its club.

Assessing the benefits of providing financial support to the sports club

Showing the provision of financial support of the X Company to its club

Table 1 shows how much the X Company invested in crediting its club in the period from 2003 to 2011.

Table 1: Crediting of the club by the X Company in the years 2003-2011 in 000 €

Year	Short-term loans given
2003	600
2004	800
2005	1,000
2006	1,200
2007	1,400
2008	1,500
2009	1,783
2010	1,703
2011	1,853

Source: Credit agreements concluded between the X Company and its club from 2003 to 2011.

Here, we will briefly explain why the X company chose a loan as the form of financial support for its club as opposed to other forms such as donations, subsidies, sponsorships. Lending is more favorable to the company than the donation, since the realized benefits from the financing of the club enable the write-off of loans, which is, in terms of influencing the reported profit or loss, the same as the donation, subsidy or payment of advertising space. If the club is in the growth stage and depends on credit, the interruption of such sources of funding affects its existence as players can no longer be sold. When deciding on crediting, it is necessary to take into account the specificity of the club, which is not identical to the financing of companies, as here we consider the life cycle, the ability to grow, the ability to generate revenue, the value of players. In doing so, classical financial strength and credit rating indicators, which are calculated on the basis of accounting data, do not have a prominent role in club financing.

A comparison of the of the X Company's growth trends in operating revenue and the progress of its club

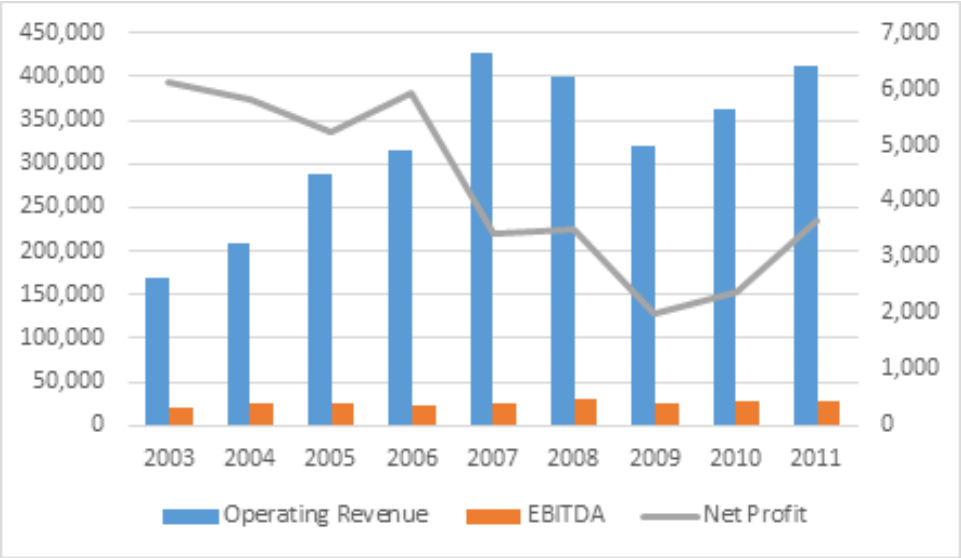
Table 2 shows the upward trend of the X Company's operating revenue, its EBITDA and net profit in the period from 2003 to 2011, which is also presented graphically in Figure 7.

Table 2: Comparison of the X Company's performance trend with the trend of its club's progress in the 2003-2011 period (data is in 000 €)

Year	Operating Revenue	EBITDA	Net Profit	Place in SLO League	Progress of the Club
2003	**169,522**	20,064	**6,120**	3	
2004	**208,949**	25,846	**5,813**	5	
2005	**287,426**	25,685	**5,234**	6	Qualifications in the EHF Cup
2006	**315,213**	21,907	**5,928**	8	
2007	**426,897**	24,579	**3,432**	10	3rd place in the national championship
2008	**400,338**	29,952	**3,485**	11	Semifinals in the EHF Cup; Qualifications in the Champions League; Winning the Slovenia Cup
2009	**320,323**	25,690	**2,007**	11	Winning the Slovenian Supercup; Second win of the Slovenian Cup; 2nd place in the national championship; Qualifications in the Cup Winner's Cup
2010	**362,015**	28,846	**2,392**	10	
2011	**412,996**	27,456	**3,666**	12	1st place in the national championship; Winning cup trophy; Winning the EHF Cup

Source: The X Company's annual reports for the 2003-2011 period and the club's annual reports for the 2003-2011 period.

Figure 7: The X Company's movement of operating revenues, EBTIDA and net profit in the 2003-2011 period



Source: Table 2.

It should be emphasized that along with the growth in revenue (the increase in the X business system) and the performance of the X Company (see EBITDA and net profit), the club also advanced.

The 1994/95 season was a turning point for the club, since it was the first year in which the club had a complete drive of younger selections, which soon began to produce visible achievements at the state level. That same year, the member team advanced to the 2nd National League. In the 1999/2000 season, after successfully finishing the qualifications, the club qualified in the 1st B State League.

This was a period of a dynamic, organic growth, an increase in the assets of the X business system (in 2003, the value of the X Company's assets was 203 € million, and in 2011 about 470 million €), expansion of the X business system to south-eastern Europe (acquisition of new production capacities).

This five-year period from 1995 to 2000 can be labelled as a period of restoration for the X business system (the mother company of the X Company and its daughters), since it was on the verge of collapse in 1996. At that time, the new administration began a forced settlement over the X business system, which was successfully completed in 2000. Along with the completion of the compulsory settlement project, the new management then intensively worked towards increasing the revenues and acquiring new deals with the existing customers. At the same time, it began to expand the gamma of new customers from 2000 onwards and operating revenues began to rise steeply. This was a period of dynamic, organic growth, an increase in the assets of the X business system (in 2003, the value of the assets of the X Company was 2003 € million and in 2011 about 470 million €) and the expansion of the X business system to south-eastern Europe

(acquisition of new production capacities). The X business system and, within its framework, the X Company (as a mother joint-stock company) became increasingly recognizable as an important player in the industry. With its products, it has become Europe's leading manufacturer and developer of key European OEMs. Its reputation grew during this period.

It is therefore quite understandable that the X Company as a big business system had to take care of the so-called social responsibility in the sense that it also does something for the environment and the local community. At the time, the X Company's new management decided that it would materially support the development of a sports category, a team ball game in the region.

The X Company entered the scene as a longtime sponsor of its club in 2000, when, as mentioned, the club was ranked in the 1st B State League. After only two seasons of playing in the 1st B State League, the club progressed to the elite 1st National State League in the 2001-2004 season and started achieving more visible success soon afterwards. In the 2004/05 season, the members of the team played in the EHF Cup and, in the 2007/08 season, they successfully played in the semi-finals of this European competition. In the national championship, they won 3rd place in the 2006/07 season and, in the 2007/08 season, they won second place for the first time in the European Champions League. In the 2007/08 season, they won the competition for the Slovenian Cup for the first time in the history of the club. In the 2008/09 season, they won the Slovenian Supercup, won the Slovenian Cup for the second time, and won second place in the national championship, thus qualifying for the Winner's Cup. Indeed, the most successful season for the club was the 2010/2011 season, where the home team won both the championship and cup trophy in addition to winning the EHF Cup.

If in Table 2 above we compare the growth of operating revenue and business performance and the enhancement of the X Company's image in the European industry with the advancement of the club on the scale of excellent clubs in a particular sport category, a team's ball game, we can conclude that during this time there was a strong correlation between the two trends. This has also been proven statistically by calculating the determination coefficient and by regression. In order to calculate these statistical indicators, the promotion of the club should also be quantified, so that we have two time series of numerical variables, the first time series of operating revenue expressed in euros and another time series expressed with winning a place in the Slovenian first league. In this case, we attribute the highest number of points achieved to first place. In this period, the Slovenian First League had 12 clubs. Since the X Company's club had won first place (in 2011), we have 12 points for that year. In 2010, they reached third place, for which we assigned 10 points, etc. First place thus represents 12 points and last place recieves1 point.

In Table 3, we illustrate two time series for two numerical variables, i.e. operating revenue and place won in the Slovenian First League.

Table 3: The ratios of X's operating revenue and the progress of its club in the period from 2003 to 2011

Year	Operating revenue in 000 €	Winning a place in the Slovenian First League
2003	**169.522**	3
2004	**208.949**	5
2005	**287.426**	6
2006	**315.213**	8
2007	**426.897**	10
2008	**400.338**	11
2009	**320.323**	11
2010	**362.015**	10
2011	**412.996**	12

Source: Annual Reports of the X Company and Annual Report of the X Company's club during the 2003-2011 period.

Determining the dependence (correlation) between the growth of the X Company's operating revenue and the progress of its sports club

Using the Excel statistics program (Anova), we first calculated the determination coefficient. This amounts to R = 0.837 and indicates that there is a very high (statistically significant) relationship visible - the correlation between the growth of the X Company's operating revenue and the progress of its club.

Calculation of regressional coefficients

- *Summary output*

Element	Value
Adjusted R Square	0,813982087
Multiple R	0,915005096
Observations	9
R Square	0,837234326
Standard Error	38664,48855

- *Anova*

Element	df	SS	MS	F	Significance F
Regression	1	53827819182	53827819182	3600661089	0,000541961
Residual	7	10464598722	1494942675		
Total	8	64292417904			

Element	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	101112,8068	39101,3892	2,5859	0,0361	8652,7134	193572,9	8652,713	193572,9
X Variable 1	26232,4176	4371,6682	6,0005	0,0005	15895,0649	36569,77	15895,06	36569,77

The above calculated R is the correlation coefficient for simple regression of the X1 variable (operating revenue) and the dependent variable (progress of the X club). The club's progress was dependent on the growth of the X Company's operating revenue. This regression coefficient reflects the degree of associativity and is equal to the bivariate correlation, since the equation has only one unknown. R2 is the correlation coefficient (= 0.84), also called the determining coefficient. Its value indicates the percentage of the total variance of the dependent variable, which is explained by a regression model consisting of the independent variable X1.

The t value of the variables in the equation, as shown above, measures the importance of the partial correlation of the variable, which is reflected in the regression coefficient. It tells whether we can claim that at the given standard error, the coefficient is not zero. F values have an even greater weight at this level (Hair, Black, Babin and Anderson, 2010, 214). In the given case, t is the value (obtained by dividing the regression coefficient with a standard error) of 6,000, which is statistically significant at the 0,000 level. It gives us a high degree of certainty that the coefficient is not zero and can be assessed (determined) as an indicator for the X club's progress.

From the above indicators, we can also conclude, among other things, that the financial support of the club has generated mutual benefit. With such support, the club was able to quickly and easily advance to the rankings of the best clubs both at home and in Europe. In the opposite direction, the club's visibility, first at home, and then increasingly on the wider European scene, built up a reputation and wider brand name recognition of the X Company in Europe. Its recognizability and reputation were strengthened through advertisements (billboards along sports fields in large sports halls in large European cities, sports jerseys of players with commercial names, TV broadcasts, etc.). These are the so-called intangible benefits that are so hard to measure. Indirectly, these benefits are definitely repercussed in an increased operating revenue. With its established brand name and also as a socially responsible company, the demonstrated and, in the wider public (in Europe), exemplified financial support provided to its club, the X Company became a trusted business partner in the eyes of renowned customers. Relations with these customers have grown into partnerships, which is much more than pure buy-sales relationships. Often, these business partners, together with the X Company's marketers, participated in matches. This was also an opportunity to strengthen business partnerships in an informal, even more personal way. This has also turned out to be a very effective and successful way of marketing. In this way, by increasing the customers' affection for the company over the years, the X Company acquired new business deals and new orders. In addition to the results of the past

business, its vision, strategy, values and mission, the X Company always presented itself to new customers as a socially responsible company and, in this context, its sports club with enviable achievements at home and abroad. Thus, both existing and new customers accepted the X Company (and thus the X business system) comprehensively as their competitive supplier, both in terms of the quality and value of its products, JIT (just-in-time) deliveries, and also as a socially responsible company committed to the principle of business excellence. According to the EFQM excellence model (MIRS, 2013), these include the following: Adding Value for Customers, Creating a Sustainable Future, Developing Organisational Capability, Harnessing Creativity and Innovation, Leading with Vision, Inspiration and Integrity, Managing with Agility, Succeeding through the Talent of People and Sustaining Outstanding Results.

Such excellent organizations achieve and sustainably maintain excellent levels of business that meet or exceed the expectations of all their stakeholders. The X business system was on the right track for business excellence in the mentioned period.

An attempt to evaluate and measure the economic effects and benefits for the X Company after providing financial support to its sports club

The question arises as to how to directly capture and measure the effects on the basis of the above justification and presented data, ie, benefits from such cooperation, or how to pinpoint and connect these benefits (higher operating revenue, higher EBITDA and higher net profit) as much as possible with the investment in the form of loans granted by the X Company to its club. Or otherwise, if it were not for this project (financial support for the club), to what extent would the operating revenue of the X Company be smaller and the operating result worse. In a direct way, this is practically impossible to measure. It also concerns the so called hidden benefits, which are not visible anywhere and are in no way booked in the financial statements. Of course, all of this is hidden or covered up by the brand name of the X Company. However, we could make an estimate, a rather more pessimistic one, based on the management's and marketer's good knowledge of the situation at that time.

In order to better understand and support the definition of the benefits from the X Company's financial support to its club, what it means to get new business and new orders from the customers, we can cite the following example. Later, in 2012 and 2013, when the X Company was at the point when it was necessary, due to the excessive indebtedness of the company among other things, to increase its share capital (recapitalization) and to make the company financially stable and sustainable in the long run, customers were prepared to approve as much as tens of millions of euros of new projects for the X Company, but assuming that, in addition to banks that had already signed a restructuring agreement, the Master Restructuring Agreement (MRA), its owners would also recapitalize the company (€ 20 million). Unfortunately, this did not happen at the time (it happened later, but sadly it was already too late) and, at that time, the X Company did not get

any new orders from reputable customers, as is still the case today. On the contrary, some projects have been transferred to other suppliers in the industry. With this example, we just wanted to illustrate what it means to be a financially stable, economically sound and trustworthy business partner for such renowned customers and this is precisely what the X Company was during that period when it also financially supported its sports club.

Estimation and measurement of the opportunity loss of profit for the X Company

Assuming (an assessment made by competent persons in the aforementioned period, i.e. the broader leadership of the X Company, which closely and directly cooperated with the then reputable customers) that we can confidently assign at least one tenth (a pessimistic estimate!) of growth in operating revenue to the role of externally demonstrated social responsibility in the form of crediting its club, then in the case that this support had not been offered, the damage would have been expressed with much less revenue (loss of revenue or the so-called opportunity loss of revenue). If we place alongside this hypothetically lost revenue, the accompanying expenditures, we would record a loss of profit for each year as shown in Table 4.

Table 4: Breakdown of operating revenues by 10% if the X Company had not financially supported its club

Year	Business revenue drop by 15%	EBITDA loss by 15%	EC failure by 15%
2003	**25.428**	3.01	918
2004	**31.342**	3.877	872
2005	**43.114**	3.853	785
2006	**47.282**	3.286	889
2007	**64.035**	3.687	515
2008	**60.051**	4.493	523
2009	**48.048**	3.853	301
2010	**54.302**	4.327	359
2011	**61.949**	4.118	550

Source: Table 2.

Assessment and measurement of opportunity costs of work

This is one of the purely economical views on the subject, but it is not the only one. What about the lost jobs or if the entire X business system (the X Company and all its subsidiaries) had not additionally employed new workers because there would be no additional orders? If, due to rough simplifications, it is assumed that, in view of the proportional decrease in

revenues, the number of employees would also be reduced (this is taken into account only in the X Company, although it would also affect its subsidiaries and the impact would be even greater!) and taking into account that these workers, who would not have been employed in the X system, would have to receive the appropriate compensation of € 600 gross per month from the country, then these external damages (externalities) would have been reflected in the benefit calculation as annual cost savings. These are shown by years in Table 5.

Table 5: Calculation of annual cost savings due to potentially lost jobs

Year	Actual number of employees in the X Company	Potentially lost jobs by 10%	Savings on labor costs (state compensation) in € 000
2003	**1**	100	720
2004	**924**	92	662
2005	**1.058**	106	763
2006	**1.041**	104	749
2007	**1.091**	109	785
2008	**1.077**	108	778
2009	**1.046**	105	756
2010	**995**	95	684
2011	**956**	96	691

Source: The X Company's annual reports from 2003 to 2011.

Calculation of the net present value of costs and benefits for the X Company from the provision of financial support for its sports company

Both economic categories, presented above, i.e. loss of operating revenue (opportunity loss of revenue) and savings on the cost of state compensation for job losses are taken into account in the cost-benefit analysis, i.e. in the part of the analysis where the benefits can be expressed in monetary units.

Thus, we now have three time series of economic categories for the 2003-2011 period, expressed in monetary terms, one that illustrates the amount of short-term loans given to the club by the X Company (that is, in line with the cost-benefit analysis as a loss, as the company's annual expenditures), the second one illustrates the loss of net profit (i.e., in line with the cost-benefit analysis as a benefit, as annual cash benefits for the X Company), and the third, which illustrates the annual savings on labor costs as an opportunity cost for the country due to potentially lost jobs. In order to determine whether the benefits of the X Company were greater than the costs (damages due to given loans that were not paid off), the discount method should be used due to the time value of the money. The amounts of individual years are multiplied by discount rates for each year, taking into account the 5%

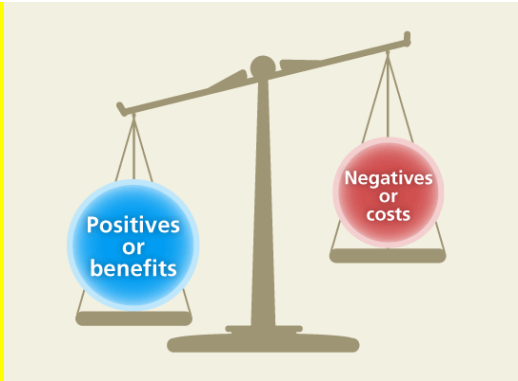
discount rate as the equity risk premium (see the theoretical starting points above!). This calculation is shown in Table 6, and the final outcome is only schematically illustrated in Figure 8.

Table 6: Calculation of the net present value (NPV) of costs and benefits for the X Company from the financing (crediting) of its club in the period from 2003 to 2011 (data is in € 000)

Year	Short-term loans given	Net profit/loss	Annual savings on operating costs	Discount factor (i = 5%)	Present value 2003 = 100
2003	**600**	918	**720**	1	1038
2004	**800**	872	**662**	0.95238	699
2005	**1000**	785	**763**	0.90703	497
2006	**1200**	889	**749**	0.86384	378
2007	**1400**	515	**785**	0.8227	-82
2008	**1500**	523	**778**	0.78353	-156
2009	**1783**	301	**756**	0.74622	-542
2010	**1703**	359	**684**	0.71068	-469
2011	**1853**	550	**691**	0.67684	-414
				NSV	**949**

Source: Table 1, Table 4 and Table 5.

Figure 8: The balance has moved to the benefit side; these were more than the costs of the X Company in connection with the financing of its sports club



Source: Table 6.

The net present value of costs and benefits, calculated and shown in 2003, is positive, which simply means that the X Company had more benefits from the financing of its club than costs expressed in the given short-term loans. Again, we emphasize that in this case, the benefits should be understood as opportunistic loss of profit and as opportunistic savings on labor costs, which would have burdened the state (social support for the unemployed) if the X Company had not financially supported its club in the region, and thus not

built their own brand name and, consequently, it would have received smaller orders from customers. We have already demonstrated the enormity of the dependence through calculation of the determination coefficient (see above!).

Some other aspects of the benefits resulting from the X Company's provision of financial support to its sports club

In the context of the cost-benefit analysis, the role of the X Company in the development of a sports category, team ball game in the region from a broader social point of view, should also be included. This broader aspect of social responsibility taken by the X Company in the region, that is, the concern for the sustainable development of the sporting genre, team ball games, and more, the concern for young people's involvement in sports activities and, therefore, the responsibility of the X Company in preventing young people from going astray (give in to idleness, drugs, alcohol, crime, etc.) is closely linked to the part of the cost-benefit analysis that highlights the social return on investment analysis.

The younger categories were also successful, as in the 2006/07 season, the cadet and junior team won the title of national champions. In the 2008/09 season, four of the clubs' selections participated at the national championship finals: the junior team became national champions, the D younger boys were second, the A younger boys won third place and the cadets were fourth in the country.

These benefits could also be financially valued, but they would be expressed as cost savings. So the alternative would have been that the X Company's leadership would not have made the decision at the beginning of the previous decade to fundamentally support the development of a sporting genre, the team ball game in the region. This means that then what might be described as external damage (externalities) could have occurred. A certain percentage of young people would have gone astray, which means the occurrence of damages for the individuals (life threatened), the families and the local communities would have ultimately fallen on social welfare and related costs. From the point of view of the theory of cost-benefit analysis presented above, we immediately find ourselves in the field when it comes to assessing an individual's life. So, again, we expose the controversy of this method, the cost-benefit analysis, in terms of the evaluation of human life. Simply put, a human life has no price. For a rough, purely economic assessment (without a social sense), the cost of life insurance that the insurance company should pay out in case of a loss of life could be taken into account. We could estimate the social costs for a certain percentage of the young population that would go astray in terms of treatment and social support for such cases. The economic, social and psychological effects of such deviant phenomena, which would surely have come to pass if they had not been so broadly supported by such sports activity in the region, could have been enormous.

Last, but not least, we could also include the benefits that the municipality and the local community in the region gained with the development of this

sporting category, team ball games. Whenever the matches in the region were played, the sports hall in the municipality was filled full, and the caterers were busy with full bars. In the calculation of the net present value, other benefits could be taken into account, for example, the savings that the X Company had in relation to advertising, when it did not need to finance these services, billboards at fields, TV broadcasts of matches, etc.

CONCLUSION

A cost-benefit analysis can be a very appropriate tool and technique for assessing the economic viability of those economic operators' business decisions whose effects do not show immediately and directly on increasing profits and the value of the assets, but can indirectly affect the performance of the company and provide it with sustainable development, the latter in particular in terms of the company's social responsibility. A socially responsible company is economically successful in the long run, but without detriment to others, employees, partners, and the wider social and natural environment. Does the company, through its management choosing to financially support, for example, a sports club in the local community where the business is based, in any way harm the above-mentioned stakeholders? This is incontrovertible with these costs / expenses - in the case of the X Company, which credited its sports club for a decade, a relatively large amount of cash was earmarked for this purpose in an absolute amount, but if we compare the annual amounts of principals with annual net sales revenues of the X Company, then these shares are very small. However, on the other hand, these amounts, which the X Company renounced during the period considered, gave the X Company a certain benefit, they helped build its brand name and they indirectly increased its market share, which means that the business decision of the company's management was well remunerated. This dependence, or connection between the achieved sales revenue and the progress of the club on the ranking scale, is very strong, as is confirmed by the above-mentioned regression coefficients. In our case, the incremental increase in sales revenue (15%) was due to the consolidation of the reputation of the X brand name and the increased respect for the X Company in the eyes of its customers, although arbitrary, but still rather pessimistic. It relied on the estimation of marketers who directly cooperated with customers and were the only competent to give such an estimation. We estimate that in this part, additional efforts that could be invested in data collection, even in a customer survey, could draw us closer to a more reliable estimate of the economic impact of the decision to fund the club to the benefit of the X Company, expressed in terms of higher revenues from sales, higher EBITDA and higher net profits. It would be advisable to deepen research in this segment in the future, which could be a challenge for those using a cost-benefit analysis for this kind of study.

If in the assessment of the X Company's benefits that are meant to flow into the company due to the company's financing of its sports club, we include the opportunity costs of labor that could arise and charge the country

(external damage) - in this case, we are speaking of Pigou's social (general) costs - if the X Company did not grow and increase the number of jobs, the positive net present value would speak in favor of such a decision. In both of these cases, the increase in sales revenue, and therefore the net profit, as well as the opportunity costs of work due to potential job losses and we are speaking of a purely economic assessment of such a decision since we have set numerical data on both sides of the balance and quantitatively expressed the result in monetary units taking into account the time value of money (discounting). At this point, we wish to reiterate the idea stated in the introduction that the decision-makers in companies (the management board and the supervisory board), when deciding on the provision of financial support to various companies or as sponsors, donors, creditors, should make an estimate of the anticipated effects and benefits of such investments, even if, as they say, these will be lower than the costs. For this purpose they have a useful tool, a cost-benefit analysis.

In the practical example of the X Company, which financed (credited) its sports club and in the light of the cost-benefit analysis or analysis of the economic impact and social return analysis, the controversy of such analyses was highlighted. The problems that arise with the use of these tools and techniques are, in practice, significant. In many cases, it is virtually impossible to measure the social benefits and benefits in the private sector of the economy, let alone turn these categories into monetary units. The controversy of the cost-benefit analysis comes to the foreground in the case of estimating the value of human lives. This aspect was also shown in the example of the X Company, which, with its financial support and again in the light of social responsibility during the period under consideration, took care that a large part of the young population was actively involved in the development of the selected sports category in the region, thereby, preventing the young population from giving into idleness and going astray (external damage).

In this paper, we deliberately presented all possible sources of revenue from sports events and the process model of sponsoring sporting events, which is widely established in the world. With this, we wanted to present a generally valid framework - the process model, whereby the X Company actively supported a team by lending and thus developed a certain sports discipline in the local community and the region.

The club experienced its end in the season 2012/13, and, in the aftermath of the X sports club, a new association, a new club, was created in 2013. It was formed as a spontaneous reaction by people who simply could not make peace with the fact that everything was simply over; that which had been built up for so many years and in which the X Company planned and systematically invested. The newly born society has thus assumed responsibility for the team and youth teams and thus now builds a new story about the success of this sporting category. This story would not have existed or it would not have started at all if the X Company had not played the role of social responsibility in the presented manner in the mentioned period.

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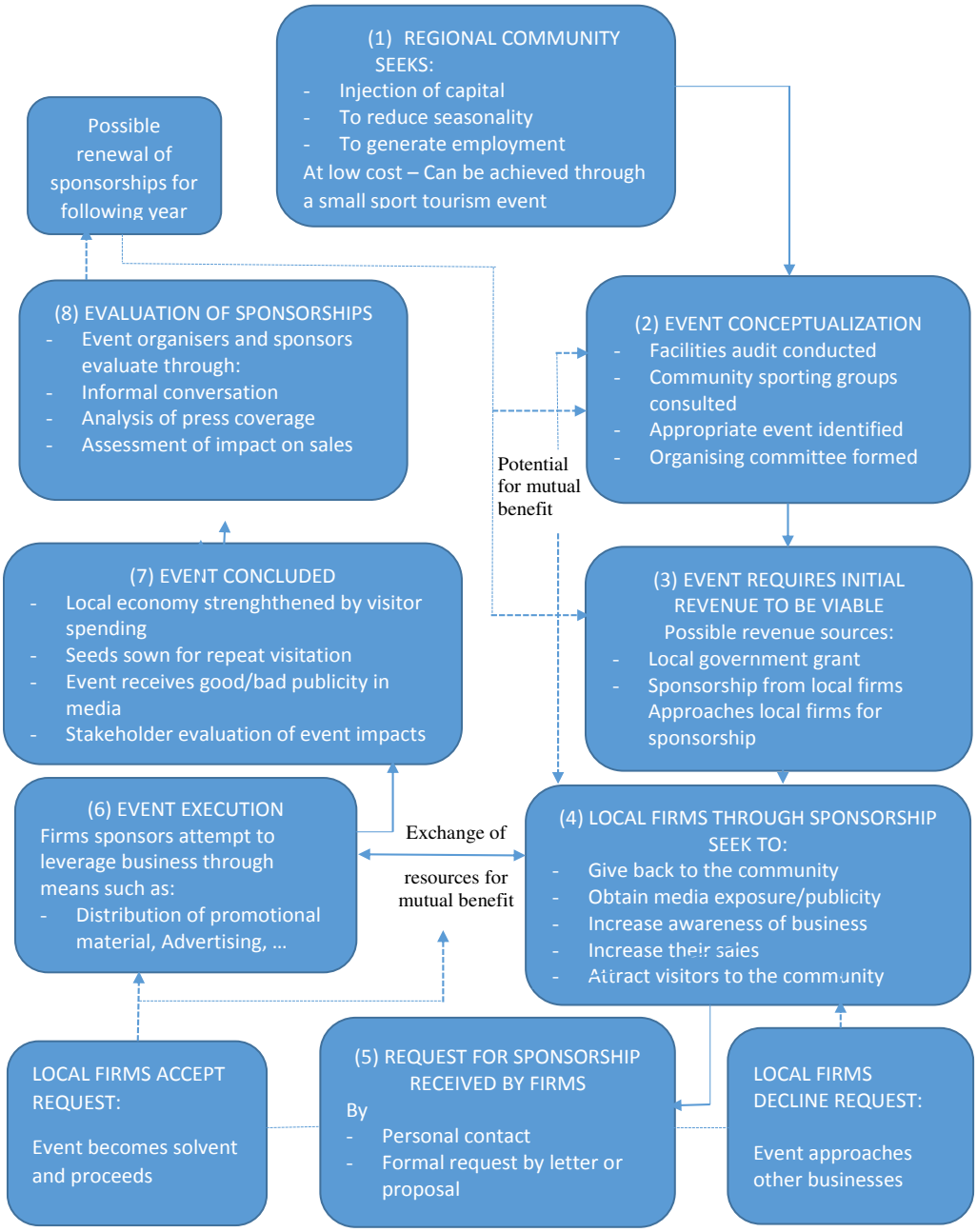
APPENDIX

Figure 6: Process model of firms sponsorship of regional sport events (matches)



Source: Adapted from Lamont and Dowell (2007, 261)

ENTREPRENEURIAL INTENTIONS AMONG STUDENTS IN SLOVENIA

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Abstract

The aim of this paper is to study entrepreneurial intention among Slovenian students. In particular, we present some of the findings of The Global University Entrepreneurial Spirit Students' Survey which was carried out in 2016 in Slovenia. Utilizing a sample of 1031 Slovenian students, we used structured questionnaire to investigate entrepreneurial spirit among graduate and postgraduate students in Slovenia. The results show that only 7,1% of Slovenian students intend to set up their own business immediately after the completion of studies. On the other hand, almost one third (33,2%) of respondents want to get self-employed in the period of five years.

Key Words

Entrepreneurial spirit; Students' survey; Slovenia.

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INTRODUCTION

In the last few decades, entrepreneurship is one of the most extensively studied area on the field of social sciences (Jeraj, 2014). Among this, entrepreneurship among students is a very important and fascinating topic which has both economic and social impact. Thus, it deserves attention by researchers, practitioners, and policy makers.

In 2003, the Swiss Research institute of small business and entrepreneurship from the University of St. Gallen started the international research Global University Entrepreneurial Spirit Students' Survey (with acronym GUESSS) which was carried out among students of undergraduate, postgraduate, and doctoral study programs. Till now, the survey was conducted every second or third year and every year the number of participating countries is increasing. The previous survey in 2013 was carried out in 34 countries and, in 2016, a record 50 countries decided to participate. In 2013 as well as in 2016, Slovenia was involved in the project. The survey was carried out by GEA College - Faculty of Entrepreneurship.

The GUESSS study explores the environment in which students live and their willingness to choose an entrepreneurial career - not only as an alternative to potential unemployment, but also as the first career choice after completing studies. Many researchers found out that environment and environmental factors have a major impact on the intention to start a business (e.g., Ibrahim and Mas'ud, 2016). The aim of this paper is to present some of the findings which we carried out in 2016 GUESSS survey in Slovenia. In particular, we focus on entrepreneurial intention among Slovenian students.

An entrepreneurial intention may be defined as a position to owning a business or becoming self-employed. Entrepreneurial intentions are also considered as a state of mind that defines the attention and activities of individuals against the self-employment scenario, as opposed to the employment scenario (Fayolle and Gailly, 2015). Of course, the categories that define the entrepreneurial intention are far more diverse than can be derived from the above definition. Below we present the categories that were studied in our research.

METHODS

Current research was based upon structured questionnaire as one of the most valuable method of collecting a wide range of information from a large number of individuals. The questionnaire was carefully prepared to achieve goals of our research. Moreover, the questionnaire was pre-tested prior to the start of the official implementation on a pilot sample of students - to make sure that questions accurately capture the intended information.

Potential respondents were students, undergraduates as well as postgraduates. In the survey were included public universities, private faculties, and other privately-owned institutions. The goal for Slovenia was to reach 1000 participants and this goal was exceeded, as 1031 students

participated in the survey. Among all, 575 questionnaires were correctly filled. The survey was conducted from April 2016 to the end of July 2016. Students were able to solve the survey in Slovenian or in English. In this way we also enabled foreign students to participate in the research.

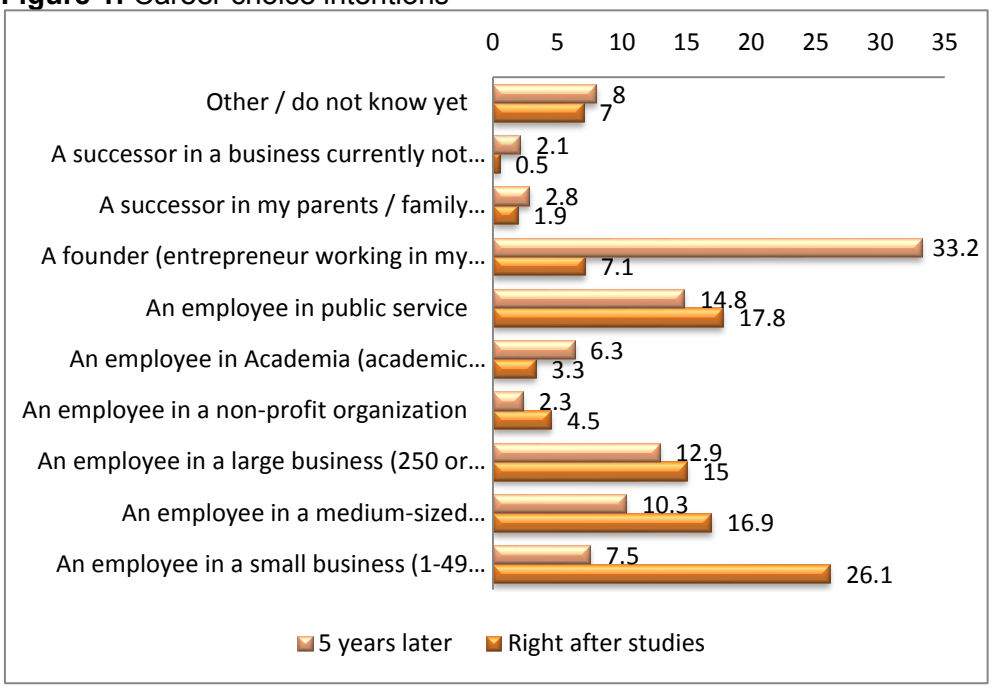
We used the statistical program IBM SPSS Statistics 22 and Excel 2013 to analyse the collected data. In the next section we illustrate and discuss the most prominent findings about entrepreneurial intention among Slovenian students which were obtained by means of a questionnaire.

RESULTS

The main task of our research was to study the intentions of students for an entrepreneurial career. In this context, we consider two periods: the purpose of students for an entrepreneurial career in the period immediately after the completion of studies and the purpose of students for an entrepreneurial career after the expiration of five years from the completion of their studies. We decided for the period of five years since it has been shown that this is the average period in which a prospective entrepreneur collects all experiences (e.g., in another company) for the establishment of his own company (Brockhaus and Horwitz, 1986; Zellweger et al., 2011).

Figure 1 shows visual comparison how the respondents answered the question: "Which career path do you intend to pursue right after completion of your studies, and which career path 5 years after completion of studies?"

Figure 1: Career choice intentions



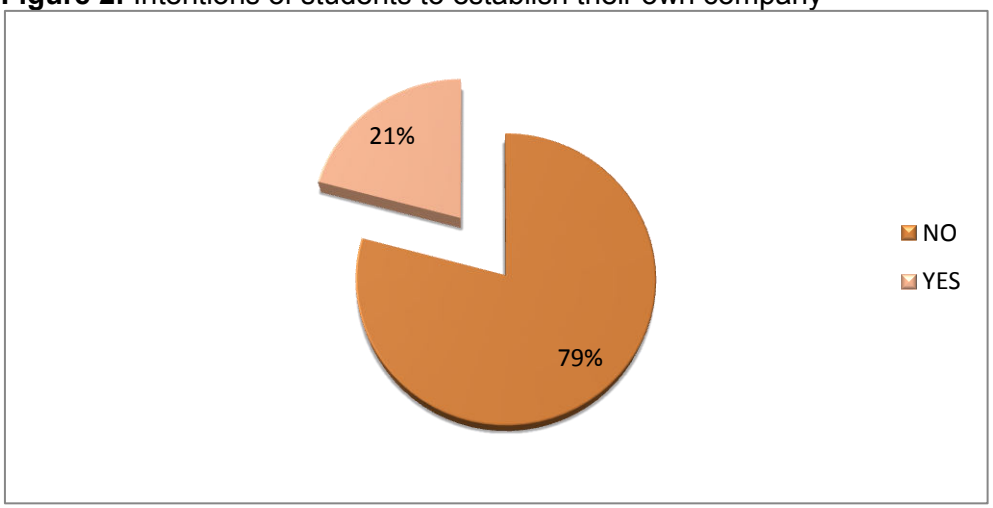
Source: Own survey.

The results show that 58% of students want to work in the economic sector immediately after completing their studies. Of this, most (26,1%) in a small company. Furthermore, 4,5% of respondents are planning to work in a non-profit organization; 3,3% intend to start their career in academic circles; 17,8% of students decide to work in the public sector. More than three quarters of respondents plan to work immediately after completing their studies. 9,5% of respondents think about entrepreneurial career. Of these, the majority (7,1%) intend to establish their own company, while 2,4% will assume the role of successor of the family company. 7% of students were undecided.

The results are somewhat different for the period after five years from the end of the study. There is a noticeable drop in employment in small, medium-sized and large enterprises (the percentage of those willing to work as an employee in small business companies 5 years after completion of studies reduces from 26,1% to 7,5%). On the other hand, the percentage increases with the intention of setting up its own business (from 7,1% to 33,2%). The number of successors in the business is also slightly increased.

The next question in this content was: "Are you currently planning to set up your own business (become self-employed)?" Only 21% of respondents currently plan to start a business. On the other hand, 79% of students answered that they do not intend to do so (see Figure 2). Here we have to point out that this percentage is a slightly higher than the percentage which was derived from the sample of all students in all involved countries. More precisely, overall (all involved countries together) GUESSS result was that 78,1% of students currently do not intend to become self-employed (see also Figure 3).

Figure 2: Intentions of students to establish their own company



Source: Own survey.

In the following, we compare our results with the results in other involved countries. In Figure 3 we can see the percentages of students which intend to set up their own business in the period of five years by countries. We ranked the countries according to this percentage. We also added the percentages of students which intend to set up their own business in the period immediately after the completion of studies.

The first five countries on the scale are Peru, Colombia, Mexico, Ecuador and Panama. If we compare just European countries, then Uruguay has the highest rank. On the basis of this data, it can be concluded that in South and Central America the student population is most entrepreneurially active. According to the economic development of these countries, compared to other countries that participated in the survey, it could be concluded that students are more entrepreneurially motivated in countries with relatively low GDP per capita.

The last country on the scale is Japan. Moreover, if we compare just European countries, then Germany has the lowest rank. Based on the above findings, we could conclude that students from economically more developed countries have less interest in entrepreneurship than those living in relatively less developed countries.

DISCUSSION

One of the most important steps in any person's life is “choosing a career”. Some want to be employed in a company immediately after graduation to gain experience. But many students may have different ideas about their career in the period of 5 years after the completion of studies.

An analysis of the results show that in Slovenia the environment is relatively stimulating (in all respects) for entrepreneurial thinking and engagement. On the other hand, Slovenian students are less entrepreneurially motivated. The reasons for this situation could be found in the Slovenian state situation and the possibilities offered by the Slovene reality. Here, let us point out that young people in Slovenia live with their parents for extremely long time due to certain reasons, e.g., the relatively low standard, the trend of the problems of the Slovenian labor market, the prevalence of work outside of an employment relationship among young people.

Problems that exist in certain areas cannot be adequately solved by partial measures, but they must be implemented in the form of system solutions that eliminate the causes and not only correct the consequences of the causes. Thus, in order to improve the situation in the field of youth, it would be necessary to create a conceptual plan for young people so that they can (co-)create sufficient conditions for quality standards and further growth in their personal and professional life.

We expect that this research will stimulate and encourage further analysis and positive action in supporting entrepreneurship education among young people in Slovenia.

ACKNOWLEDGMENTS

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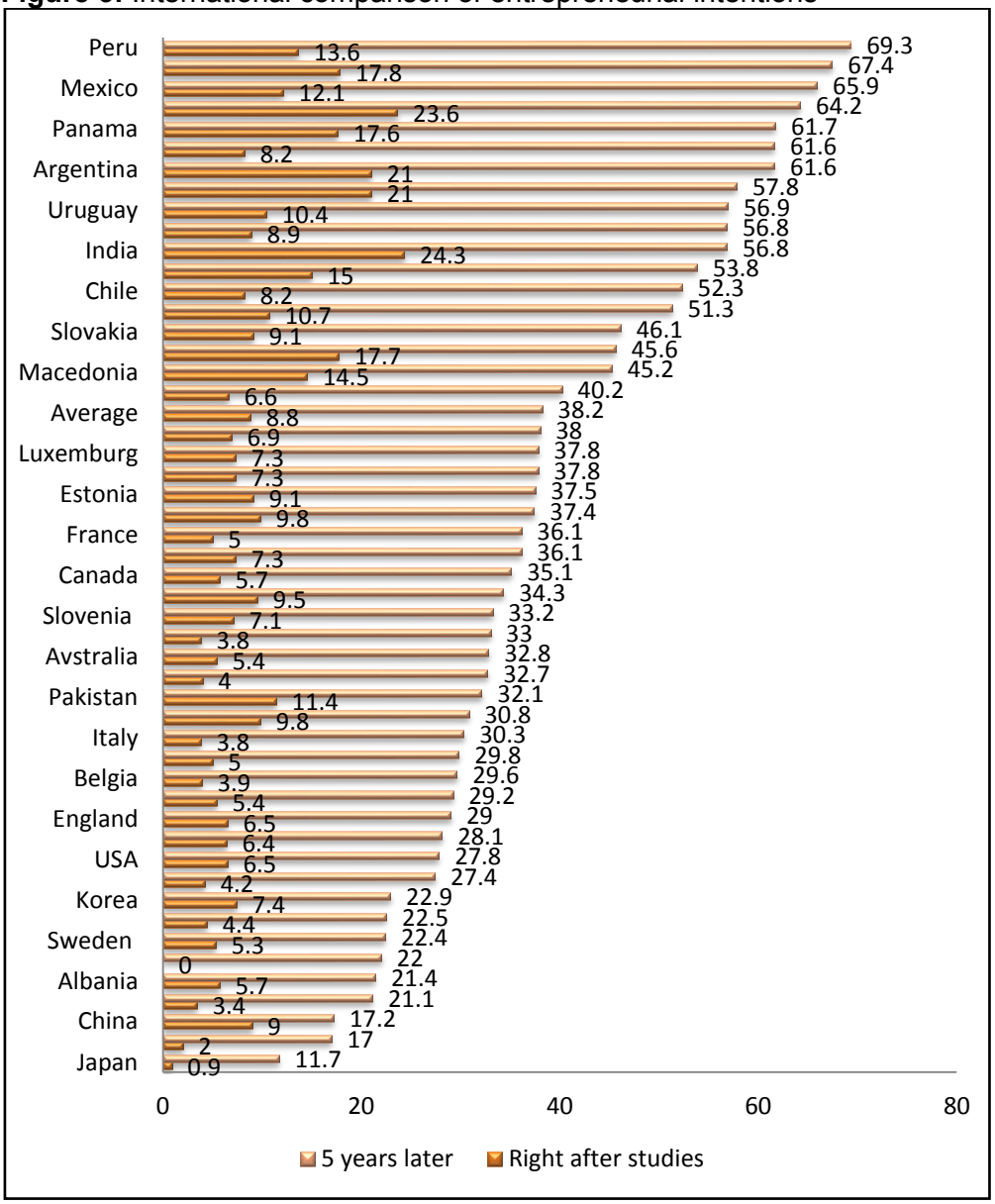
APPENDIX

Figure 3: International comparison of entrepreneurial intentions



Source: GUESSS survey.